EASTERN RESEARCH GROUP, INC.

MEMORANDUM

TO: Bill Maxwell, U.S. Environmental Protection Agency, OAQPS (MD-13)

FROM: Mary Lalley, ERG/RTP

DATE: April 9, 1997

SUBJECT: Final Summary of the March 18, 1997 Meeting of the ICCR Process Heater Work Group

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1.0 PURPOSE

The purpose of the meeting was to allow meeting attendees to discuss various activities of the ICCR Process Heater Work Group. Topics of discussion included the combustion unit survey, the ICCR database, recommendations to be made to the Coordinating Committee, emission data, and issues to be addressed in the future.

2.0 LOCATION AND DATE

The meeting was held on March 18, 1997 at the Intercontinental Hotel in Chicago, Illinois.

3.0 MEETING ATTENDEES

Meeting attendees include representatives of the OAQPS Emission Standards Division, trade associations, and State

agencies. A complete list of attendees (with their affiliation) is included as attachment 1.

4.0 SUMMARY OF DISCUSSION

Discussion topics were listed in an agenda created during the meeting. The agenda is included as attachment 2.

4.1 Information Collection Efforts

4.1.1 Background on the Combustion Unit Survey. An EPA representative explained that a subgroup was formed by the Coordinating Committee to develop a plan for information collection. The subgroup included representatives from all work groups and representatives of environmental groups. The subgroup will present its recommendations for information collection to the Coordinating Committee at the March 19 meeting. The Subgroup will present a questionnaire to be sent to facilities with combustion units that burn materials other than fossil fuels. An industry representative added that a task group developed the questionnaire based on the discussion of the Information Collection Subgroup and that the questionnaire has been reviewed by the Subgroup.

An industry representative explained that the Information Collection Subgroup formed by the Coordinating Committee decided that the existing ICCR database is sufficient for fossil fuel-fired boilers, gas turbines and engines. An EPA representative added that it is the responsibility of the Process Heater Work Group to review the database to determine if it is adequate for fossil fuel-fired process heaters.

4.1.2 Scope of the Combustion Unit Survey. One industry representative inquired about the reason landfill gas-fired units are targeted by the survey. An EPA representative stated that

some emission reports for landfill gas burning indicated that emissions may contain mercury and chlorinated compounds.

One industry representative expressed the concern that the Work Groups were not involved in the decision to move forward with the mandatory survey or in the development of the recipient list. The industry representative stated that he is concerned that some things may be lost if decisions are made quickly and without the participation of work group members.

One industry representative stated that the organization he represents is considering ways to assist facilities to complete the survey correctly. An EPA representative stated that he will raise the issue of trade association assistance with survey responses to other EPA representatives.

An EPA representative suggested that questions and suggestions for the survey be raised during the report of the Information Collection Subgroup at the March 19 Coordinating Committee meeting.

4.1.3 Combustion Unit Survey Recipients. An EPA representative explained the selection process for facilities to receive the combustion unit survey. The survey will be sent to a facility if there is an indication in the database that non-fossil fuels are burned in a boiler, incinerator or process heater at the facility. Not all non-fossil fuels will be covered by the survey. For example, combustion units that burn only bagasse and fossil fuels or only refinery process gas and fossil fuels will not trigger a survey to be sent to a facility. The EPA representative explained that the Information Collection Subgroup determined that adequate information is available to the EPA for these non-fossil fuels.

For boilers and incinerators, the source classification code (SCC) will be used to determine that a non-fossil fuel is burned.

Few process heater SCCs provide an indication of whether non-fossil fuels are burned in the unit. The EPA representative stated that the only process heaters for which facilities will receive a survey are those in the metals industry that burn process gas. The EPA representative asked the Work Group how units that should receive the survey but aren't on the mailing list could be identified. An industry representative suggested that the group could identify process heaters that burn non-fossil fuels based on their own experience.

One industry representative stated that approximately one-third of the addresses on the list are for facilities in the forest products industry and asked if the list could be further focused.

The industry representative added that much of the information requested has already been obtained through an industry-sponsored survey. Another industry representative suggested that the forest products industry representative should work with EPA to convince them that the information has been collected and a mandatory survey is not needed. The industry representative cautioned that there would be significant opposition to narrowing the focus of the survey for wood-burning units. The forest products industry representative also expressed the concern that if wood is included in the wastes covered by a section 129 regulation, facilities may be discouraged from using wood as a fuel.

One industry representative expressed a concern that facilities may have to fill out survey forms for thousands of process heaters that are or will be covered by another MACT standard. An EPA representative explained that a survey will be sent to a facility if it has a process heater in the database that is not covered by another MACT and that process heater burns

materials other than fossil fuels. The process heater may be direct- or indirect-fired. A facility will not receive a survey because of a process heater that is covered by another MACT. The industry representative pointed out that while a facility may not receive a survey because of a process heat covered by another MACT, the facility may receive a survey because of another unit and be required to complete the survey for process heaters covered by other MACTs. The industry representative asked how the survey could be revised to explicitly instruct facilities not to complete the survey for units that are covered by another MACT standard. The industry representative also questioned how process heaters covered by other MACT standards would be sorted from the survey responses. EPA and industry representative suggested that the sort could be done based on the process heater SCC or description.

Several industry representatives asked if the list of survey recipients would be made available to the work groups and supported allowing the work groups to review the list. One industry representative stated that allowing the work groups to review and sort the mailing list would result in the most efficient use of resources. An EPA representative stated that they will try to make the list available by March 21.

One industry representative asked if EPA considered a statistical sampling to determine the survey recipients. Another industry representative stated that a statistical sampling may address the concern that data have already been collected for some industries. An EPA representative stated that the survey is being sent to a subpopulation because it will be sent only to facilities with waste-burning units. Another industry representative added that the recipients are a subpopulation because only facilities in the ICCR database will receive the

survey. One industry representative stated that it may not be possible to develop a sample with the limited data available in the database. An industry representative stated that the approach for the survey should be the one that results in the best possible database and the most accurate MACT floor. An EPA representative stated that the burden of the survey on the recipients has been greatly reduced by revising the survey. The EPA representative added that one goal of the survey is to determine which facilities have emission test data and that a statistical sampling would not provide this information.

The Work Group agreed that no recommendation would be made to the Coordinating Committee regarding a statistical sampling approach for the section 114 combustion unit survey.

4.1.4 Voluntary Information Collection Efforts. An industry representative asked if information on non-fossil fuel-fired combustion units could be obtained through voluntary collection efforts instead of through the mandatory survey. An industry representative stated that EPA did provide this option and explained that if an industry group is sending out a voluntary survey as an agent of EPA in lieu of the section 114 survey, the survey and recipient selection would need to be approved by representatives of EPA and by the Office of Management and Budget prior to March 28.

4.2 ICCR Database

4.2.1 Adequacy of Existing Database. An industry representative clarified that the purpose of the current database review is to determine if the database contains enough information regarding the population of process heaters, and not emissions. Several work group members agreed with this statement. One industry representative stated that the

population information in the database will effect the accuracy of emission estimates, especially if the database is contains a disproportionate number of large units.

One petroleum industry representative reported on his findings resulting from his review of the ICCR database. He stated that the database contains approximately 8,000 indirect-fired process heaters. The majority of these heaters are in the petroleum refining and chemical manufacturing industries and approximately 80 percent are gas-fired. The industry representative stated that, based on his assessment of the database, a survey is not required for fossil fuel-, indirect-fired process heaters in the petroleum refining industry. Several representatives of the petroleum refining industry agreed with this analysis.

Another petroleum refining industry representative reported that refineries in the Midwest and Texas appear to be well-represented in the database, while refineries in California and New Jersey are not. The industry representative stated that Rocky mountain area and Illinois refineries are adequately represented. The industry representative reported some problems with the database, such as the same source appearing three times and the same stack ID being used for multiple process heaters.

A representative of the chemical manufacturing industry reported that they have begun to review the database but are not yet able to make a statement regarding its adequacy. The representative stated that the number of process heaters in the database associated with chemical manufacturing, approximately 960, is low compared to the actual number of heaters. The industry representative added that an indication of the fuel burned is included for 736 of the 960 heaters. The industry

representative stated they would like to see the revised database before reaching a conclusion.

A representative of the metals processing industry stated that approximately 40 percent of the 8,000 process heaters in metal processing SICs are incorrectly classified. The industry representative added that the database appears to be representative for the aluminum industry.

An industry representative responsible for reviewing miscellaneous process heaters reported that many are misclassified and are not combustion units. The industry representative stated that the database is an adequate source of population data for miscellaneous process heaters.

4.2.2 Plans for Database Review. The industry representative suggested that the number of refinery process heaters in the database could be divided by the number of refineries in the database to determine the average number of process heaters per refinery. This number could then be multiplied by the total number of refineries nationwide to estimate the number of refinery process heaters nationwide.

An EPA representative stated that once the second version of the database is released, the Work Group will be responsible for any further development of the database. An industry representative asked if the group would be empowered to make corrections to the database. The EPA representative stated that corrections made to AIRS/OTAG information in the database will likely not be made to the AIRS or OTAG databases. Another industry representative suggested that the group can make copies of the database that can be revised.

An industry representative reminded the group that a determination on the adequacy of the database is required as well as a decision regarding whether additional data collection is

required for fossil fuel-fired units. Another industry representative suggested that it would be helpful to understand the Information Collection Subgroup's rational for determining that a survey is not required for fossil fuel-fired boilers.

Industry representatives stated that it is difficult to determine if the database is adequate without knowing whether direct-fired units will be a focus of the ICCR.

One industry representative suggested that the Work Group complete the review of the database by the April 22 meeting.

4.3 Review of Recommendations to the Coordinating Committee

Bill Maxwell provided the Work Group with a memo titled "Recommendation of Definition and Delineation of Units to be Covered by any Process Heater-Related ICCR Standard" which summarizes the Work Group's recommendations to the Coordinating Committee. The memo is included as attachment 3. The memo includes the following tables of process heaters, identified by SCC:

Table 1	Process Heaters Recommended to Remain in the ICCR for Regulatory Development
Table 2	Process Heaters Recommended for Coverage Under Another MACT Standard
Table 3	Process Heaters Recommended for Regulation by Other Means but Having No Defined MACT
Table 4	Process Heaters Being Investigated for Inclusion in ICCR
Table 5	Process Heaters Recommended for Moving to Another ICCR Source Category

4.3.1 Review of Tables

Mr. Maxwell provided an expanded version of the tables in the memo that includes the process heaters that are in the ICCR database for each SCC. The expanded tables are included as

attachment 4. He explained that the tables do not include all of the process heaters in the database and added that he has lists of the process heaters not included, organized by SCC. Mr. Maxwell suggested that the Work Group review the expanded tables to determine if all of the SCCs are listed on the appropriate table. He added that the applicability of regulations developed will not be based on SCCs but on a definition of a process heater. If a process heater fits the definition it will be subject to the regulation regardless of the SCC it is categorized under or the table it is listed on. Several Work Group members pointed out that an incorrect SCC was used for many pieces of equipment in the database.

The group decided to move an SCC from table 1 to another table if, based on the group's knowledge, no process heaters in the SCC are indirectly fired. SCCs were left on table 1 or moved to table 1 if the group knew that the SCC includes indirect-fired units or was not positive that the SCC does not include indirect-fired units. The group agreed on the following revisions to the tables:

- The SCCs described as "Mineral Products, Fuel-fired equipment, process heaters" (distillate oil, residual oil, and natural gas) will be removed from table 1 of the memo titled "Recommendation of Definition and Delineation of Units to be Covered by any Process Heater-Related ICCR Standard". The SCCS will be moved to table 3 with a footnote that indicates that they contain units that should be considered by one of the asphalt MACTs.

- All SCCs from table 4, Process Heaters Being Investigated for Inclusion in ICCR, will be moved to table 1, Process Heaters Recommended to Remain in the ICCR for Regulatory Development.

An EPA representative reported that, with the revisions discussed previously, of the process heaters in the ICCR database, 50 percent are represented by table 1 and 27 percent are represented by table 2. Approximately 23 percent of the process heaters in the database are assigned SCCs on table 3. The Work Group has not identified an applicable MACT standard for these heaters and is recommending that they be regulated through means other than the ICCR.

The EPA representative stated that the revised tables will be posted to the TTN.

4.3.2 Review of Memo Text. An industry representative asked for clarification regarding item 4 of the memo which states: "Process heaters covered under MACT standards for another source category shall not be covered under any standard developed for process heaters as a result of work conducted by the ICCR process. It is recommended that the EPA be asked to notify each respective project team for these source categories of this decision and also to inform each team that the provisions of section 129 should also be followed, where applicable (e.g, waste firing)." The industry representative asked if section 129 regulations might be developed as part of the ICCR process for sources that are covered by a MACT standard. An industry representative provided the examples of the petroleum refineries NESHAP and the Hazardous Organic NESHAP (HON), MACT standards that do not include provisions for process heaters.

One industry representative asked if existing regulations should be re-opened or regulations that will be proposed soon should be delayed to consider section 129 issues. An EPA representative stated that they are not considering re-opening

existing standards and suggested that regulations to be proposed soon could be revised by a supplemental or second version.

One industry representative stated that it makes sense for section 129 regulations to be considered by the MACT team for units specifically covered by a MACT such as fluidized catalytic cracking units and ethylene crackers. The industry representative stated that the ICCR should consider section 129 regulations for process heaters that are not specifically covered by a MACT even if the process they are associated with is. The Work Group agreed with this summary. One industry representative stated that it will be possible for a facility to be subject to more than one MACT standard, although no single unit would be subject to more than one MACT.

4.3.4 Presentation to Coordinating Committee. One industry representative suggested that the Coordinating Committee should be cautioned that some of the SCCs proposed to be covered through the ICCR are overwhelmingly populated with direct-fired units. Another industry representative estimated that out of the approximately 11,000 process heaters in the database that are represented by table 1, approximately 8,000 are indirect-fired units.

The Work Group agreed that Susan Blevins, Lee Gilmer, and Bill Maxwell should sit at the table at the March 19 Coordinating Committee meeting during the presentation of the Process Heater Work Group's recommendations.

4.4 Emission Data

An industry representative inquired as to how emission data will be obtained. An EPA representative explained that it will be possible to collect emission test reports from facilities that

indicate that they have them in response to the combustion unit survey. The EPA representative stated that if the Work Group determines that adequate emission data are not available in the database and through the surveys, the Work Group will determine how to collect additional data. One industry representative suggested using information available in literature.

4.5 MACT Applicability and Major Sources

During the review of recommendations to be made to the Coordinating Committee (see section 4.3) an industry representative asked if MACT standards apply only to major sources. An EPA representative responded that MACT standards generally apply only to major sources but that standards can be developed for area sources. The industry representative asked if area sources should be included in information collection and regulatory development. An EPA representative stated that the area source should be included because there may be similar sources to which the MACT standard would apply. An industry representative added that section 129 regulations do not differentiate between major and area sources. Another industry representative added that it is not clear how co-located sources are to be addressed. The industry representative concluded that if all facilities of an industry are stand-alone area sources, it may be possible to show that a MACT standard should not be developed for that industry.

4.6 Test Data for Refinery Process Gas

Lee Gilmer gave a brief overview of the data available through a test program for refinery process gas and natural gas. Mr. Gilmer provided the following background on the test program:

- included representative process gas (analyses are available), natural gas, and “low” Btu gas
- tested at a wide range of operating conditions, including conditions well outside of normal ranges
- generated emission data for total HAPs, individual HAPs, total VOCs, and individual VOCs
- emission data for laboratory process heater, individual refinery process heaters, and pooled refinery process heaters
- tested both uncontrolled and controlled units; the majority of controlled have NO_X control devices

Mr. Gilmer solicited comments from the Work Group regarding the content and approach for a presentation of the test data. Work Group suggestions included the following:

- Plot emissions versus operating conditions; show the plots for natural gas and refinery gas side-by-side
- Translate the difference in emissions from process gas and natural gas into units of tons per year
- Focus on the accuracy of the testing and explain the difficulty in obtaining accurate measurements at low concentrations
- Show that process gas is consistent between refineries and consistent with the gas for which emission tests were performed
- Be able to answer questions regarding dioxin, mercury, and metals content of process gas and products of incomplete combustion
- Discuss the content of process gas, show that it is similar in content to natural gas

5.0 ISSUES

The Work Group identified two issues that do not currently require action but that will become more important as regulatory development continues.

5.1 Basis of Standards

One industry representative stated that standards developed should be feasible for 24-hour operation. The industry representative provided that the credible evidence rule states that being in compliance 90 percent of the time is not acceptable and that emission limits are to be met 100 percent of the time, notwithstanding periods of startup, shutdown, and malfunction and in cases where emissions averaging is in use. The industry representative stated that in previous rule development, standards were based on one-time testing during which conditions were contrived and idealized. The industry representative stated that, regardless of the format of an emission limit, it should reflect the capabilities of units on a continuous basis.

5.2 Performance-Based Standards

One industry representative stated that there is a precedent for establishing performance-based emission limits. Another industry representative stated that a MACT standard should be based on a control technology and expressed support for a standard that limits the requirement to having control technology in place at all times. One industry representative pointed out that the format for the standard may be a control efficiency or other measure, even if the standard in based on a control technology. An EPA representative agreed that there are many options for the format of standards.

6.0 ACTION ITEMS

The following action items were assigned:

- Bill Maxwell and Lee Gilmer will develop a draft time line for the Process Heater Work Group to be presented at the meeting on April 22.
- Work Group members will try to make initial contact with non-represented industry groups and will report progress at the meeting on April 22.

7.0 NEXT MEETINGS

A conference call will be held March 27 at 11:00 am EST. Topics for discussion include:

- the outcome of the March Coordinating Committee meeting
- status of the database
- next steps to be taken for database review
- the date of the May Process Heater Work Group meeting

Bill Maxwell will provide everyone with the call-in number.

A meeting is scheduled for April 22 in Research Triangle Park, North Carolina.

These minutes represent an accurate description of matters discussed and conclusions reached and include a copy of all reports received, issued, or approved at the March 18, 1997, meeting of the Process Heater Work Group. Bill Maxwell, EPA.

Attachment 1
MEETING ATTENDEES

Susan Blevins, Office of Air Quality, Texas Natural Resource Conservation Commission (TNRCC)
John Bloomer, Selas Corporation of America
Roy Carwile, Aluminum Company of America
Chuck Feerick, Exxon Company, USA
Bruno Ferraro, Grove Scientific Company
Klane Forsgren, Sinclair Oil
Lee Gilmer, Texaco, Inc.
Tim Hunt, American Petroleum Institute (API)
Greg Johnson, Shell Oil Company
Mary Lalley, Eastern Research Group
Arthur Lee, Texaco, Inc.
Bill Maxwell, EPA, Office of Air Quality Planning and Standards
Diane McConkey, EPA, Office of General Counsel
Robert Morris, The Coastal Corporation
John Ogle, Dow Chemical Company
Lawrence Otwell, Georgia-Pacific Corporation
Jim Seebold, Chevron Research and Technology Company
Karluss Thomas, Chemical Manufacturers Association

Attachment 2
Meeting Agenda

1) Coordinating Committee Presentation
   Memo
   Tables in Memo

2) Section 114 Waste Combustion Unit Survey

3) Process Heater Database

4) Next Steps
   Natural Gas, process gas, emissions, floor, etc.

5) Plan, time line, issues

March 12, 1997

Attachment 3
Recommendation of Definition and Delineation of Units to be Covered by Any Process Heater-Related ICCR Standard

SUBJECT: Recommendation of definition and delineation of units to be covered by any process heater-related ICCR standard

FROM: Process Heaters Work Group
Industrial Combustion Coordinated Rulemaking

TO: Coordinating Committee
Industrial Combustion Coordinated Rulemaking

Recommendations

The process heaters work group makes the following consensus recommendations to the Coordinating Committee:

1. The definition of “process heater” shall be as follows:

   “Process heater” means an enclosed device using controlled flame where the device’s primary purpose is to transfer heat:

   a. To a process fluid, or
   b. To a process material that is not a fluid, or
   c. To a heat transfer material for use in a process unit (not including generation of steam).

2. The universe of process heaters shall be divided into two categories, indirect-fired and direct-fired, with the respective definitions being as follows:

   “Indirect-fired process heater” means any process heater in which the combustion gases do not mix with, or exhaust to the atmosphere from the same stack(s), vent(s), etc. with, any gases emanating from the process or material being processed.

   “Direct-fired process heater” means any process heater in which the combustion gases mix with and exhaust to the atmosphere from the same stack(s),

vent(s), etc. with gases originating with the process or material being processed.

3. Any standard developed for process heaters as a result of work conducted by the ICCR process shall focus on “indirect-fired process heaters.”

4. Process heaters covered under MACT standards for another source category shall not be covered under any standard developed for process heaters as a result of work conducted by the ICCR process. It is recommended that the EPA be asked to notify each respective project team for these source categories of this decision and also to inform each team that the provisions of section 129 should also be followed, where applicable (e.g, waste firing).

5. The Coordinating Committee shall recommend to the EPA that other means be examined for determining the regulatory status of direct-fired process heaters not already included in another source category MACT standard. The process heaters work group provides in the attached tables recommendations to the Coordinating Committee for certain categories of direct-fired process heaters.

6. Information gathering efforts for all waste- or non-fossil fuel fired process heaters shall proceed under the EPA section 114 data gathering effort. This effort will acquire additional information on waste- and non-fossil fuel firing by process heaters. Information on waste- and non-fossil fuel firing by direct-fired process heaters will be passed on to the EPA.

Background

To determine the population of process heaters that could potentially be covered by any ICCR-developed standard (section 112 or 129), the Aerometric Information Retrieval Service (AIRS) and the Ozone Transport Assessment Group (OTAG) data bases were combined. This combined data base (termed the ICCR data base) was then enhanced with additional data obtained from individual State and local agencies. These collective data bases are based on the use of Source Classification Codes (SCC) (assigned to each individual type of emission point) and Source Identification Codes (SIC) (assigned to each industry category). This process resulted in numerous pieces of process equipment

being identified as “process heaters.” The definition of process heater was taken to be as follows:

> “Process heater” means an enclosed device using controlled flame where the devices’s primary purpose is to transfer heat:
>
> a. To a process fluid, or
> b. To a process material that is not a fluid, or
> c. To a heat transfer material for use in a process unit (not including generation of steam).

In gathering information and data related to process heaters, it became apparent that there are two distinct classes of process heaters, indirect-fired and direct-fired. Indirect-fired process heaters are those in which the combustion source, or flame, and products of combustion are kept separate from the process material and its emissions. Exhaust gases from the process heater are vented to the atmosphere separate from those of the process material. The definition for this class of process heater is as follows:

> “Indirect-fired process heater” means any process heater in which the combustion gases do not mix with, or exhaust to the atmosphere from the same stack(s), vent(s), etc. with, any gases emanating from the process or material being processed.

Direct-fired process heaters, on the other hand, are those in which either the flame or the products of combustion, or both, are in contact, and may intermingle, with the process material or its emissions. The combustion exhaust gases are vented to the atmosphere along with the exhaust gases from the process material. The definition for this class of process heater is as follows:

> “Direct-fired process heater” means any process heater in which the combustion gases mix with and exhaust to the atmosphere from the same stack(s), vent(s), etc. with gases originating with the process or material being processed.

The universe of direct-fired process heaters is potentially much larger and more diverse than that of indirect-fired process heaters. Indirect-fired process heater emissions are composed entirely of the products of combustion. In addition, the design and operation of indirect-fired process heaters is believed to be

fairly consistent. Emissions from direct-fired process heaters (e.g., kilns, dryers, calciners), on the other hand, consist not only of products of combustion but also of emissions directly related to the process unit and material. Furthermore, the design and operation of direct-fired process heaters varies widely from industry to industry and between applications within a given industry. This in itself does not preclude such categories from being combined and examined in a generic sense, looking broadly across various industries. In fact, the Work Group recognizes that this may have previously been done by the EPA.

In addition, it was determined that many of the direct-fired process heaters identified in the ICCR data base are already included in specific source categories scheduled for development of MACT standards under section 112. As a key goal of the ICCR process "...is to avoid dual coverage of sources by more than one regulation...",[1] process heaters included in one of these individual MACT categories should, at this time, be excluded from the ICCR evaluation. To simplify all aspects of the ICCR process (e.g., information gathering, emission testing, regulatory development), it was decided to develop a strategy that would allow for a more generic ICCR approach yet not exclude any process heaters from potential HAP regulation. The indirect-fired vs. direct-fired break-down appears to allow this strategy to proceed most effectively.

It should be noted that none of the categorizations now being recommended preclude reevaluation by either the Work Group or by the Coordinating Committee in the future. As further information becomes available, additional recommendations may be made regarding disposition of categories of process heaters for regulatory development (e.g., include in the ICCR effort, recommend to the EPA that other means be pursued).

The list of "process heaters" from the ICCR data base has been sorted by category of recommended approach for regulatory development. These recommendations are presented in Tables 1 through 5 attached and are discussed below.

Process Heaters Recommended to Remain in the ICCR for Regulatory Development

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[1] "Industrial Combustion Coordinated Rulemaking: Organizational Structure and Process," January 1997, Revision 0. p. 9.

Table 1 presents those process heaters, by SCC, that are believed to be indirect-fired units. It is recommended that these process heaters be the focus of any standard that may result from the ICCR process. It should be noted that there are certain SCC categories that merit further investigation to determine that they are in fact indirect-fired units. Should any be found to be direct-fired units, further recommendations would be forthcoming. In addition, should any units be found to fall under another MACT category or standard (e.g., ethylene cracking units), regulation of such units would be left to that project. Of the approximately 11,300 units in the initial version of the ICCR data base, over 63 percent are to be found in the petroleum and chemical industries.

Process Heaters Recommended for Coverage Under Another MACT Standard

Table 2 presents those process heaters, by SCC, that appear to be included in the indicated MACT project. Most of these process heaters are also believed to be direct-fired units. It is recommended that these process heaters be covered by the MACT standard that may result from the indicated project and not receive any focus under the ICCR process. The appropriate EPA project team should be notified that these units are not going to be investigated by the ICCR project and should be a part of their MACT regulatory development investigation. In addition, the team should be informed that provisions of section 129 should also be included in their regulatory development effort.

Process Heaters Recommended for Coverage by Other Means but Having No Defined MACT

Table 3 presents those process heaters, by SCC, that are believed to be direct-fired units but for which no source category scheduled for MACT development has been identified. It is recommended that no focus be placed on these units under the ICCR process and that the EPA management be made aware of these units and appropriate action taken.

<u>Process Heaters Being Investigated for Inclusion in the ICCR</u>. Table 4 presents those process heaters, by SCC, that are being further investigated to determine the category of process heater involved (i.e., indirect-fired or direct-fired). Indirect-fired units will be added to Table 1 for inclusion in the ICCR. Direct-fired units will be added to Table 2 or 3 as appropriate.

Process Heaters Recommended for Moving to Another ICCR Source Category. Table 5 presents those process heaters, by SCC, that are believed to have been mislabeled as “process heaters” and are recommended for consideration under another ICCR Work Group.

Table 1. Process Heaters Recommended to Remain in the ICCR for Regulatory Development

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30190001	Chemical Manufacturing, Fuel Fired Equipment, Distillate Oil (No. 2): Distillate Heaters	ICCR	2869	10 year	20
30190002	Chemical Manufacturing, Fuel Fired Equipment, Residual Oil: Process Heaters	ICCR	2869	10 year	21
30190003	Chemical Manufacturing, Fuel Fired Equipment, Natural Gas: Distillate Heaters	ICCR	2869	10 year	773
30190004	Chemical Manufacturing, Fuel Fired Equipment, Process Gas	ICCR	2869	10 year	71
30290001	Food and Agriculture, Fuel Fired Equipment, Distillate Oil (No. 2)	ICCR *	2077	10 year	21
30290002	Food and Agriculture, Fuel Fired Equipment, Residual Oil	ICCR *	2077	10 year	29
30290003	Food and Agriculture, Fuel Fired Equipment, Natural Gas	ICCR *	2077	10 year	506
30290005	Food and Agriculture, Fuel Fired Equipment, Process Heaters: LPG	ICCR *	2077	10 year	4
30390001	Primary Metal Production, Fuel Fired Equipment, Distillate Oil (No. 2): Process Heaters	ICCR *	3333	10 year	20
30390002	Primary Metal Production, Fuel Fired Equipment, Residual Oil: Process Heaters	ICCR *	3333	10 year	14
30390003	Primary Metal Production, Fuel Fired Equipment, Natural Gas: Process Heaters	ICCR *	3333	10 year	365
30390004	Primary Metal Production, Fuel Fired Equipment, Process Gas: Process Heaters	ICCR *	3333	10 year	63
30490001	Secondary Metal Production, Fuel Fired Equipment, Distillate Oil (No. 2): Process Heaters	ICCR *	3300	10 year	11
30490002	Secondary Metal Production, Fuel Fired Equipment, Residual Oil: Process Heaters	ICCR *	3300	10 year	1
30490003	Secondary Metal Production, Fuel Fired Equipment, Natural Gas	ICCR *	3300	10 year	610
30490004	Secondary Metal Production, Fuel Fired Equipment, Process Gas: Process Heaters	ICCR *	3300	10 year	34
30590001	Mineral Products, Fuel Fired Equipment, Distillate Oil (No. 2): Process Heaters	ICCR *	4463	10 year	78
30590002	Mineral Products, Fuel Fired Equipment, Residual Oil: Process Heaters	ICCR *	4463	10 year	15
30590003	Mineral Products, Fuel Fired Equipment, Natural Gas: Process Heaters	ICCR *	4463	10 year	278

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30600101	Petroleum Industry, Process Heaters, Oil-fired	ICCR	2911	10 year	9
30600102	Petroleum Industry, Process Heaters, Gas-fired	ICCR	2911	10 year	56
30600103	Petroleum Industry, Process Heaters, Oil-fired	ICCR	2911	10 year	470
30600104	Petroleum Industry, Process Heaters, Gas-fired	ICCR	2911	10 year	3198
30600105	Petroleum Industry, Process Heaters, Natural Gas-fired	ICCR	2911	10 year	483
30600106	Petroleum Industry, Process Heaters, Process Gas-fired	ICCR	2911	10 year	798
30600107	Petroleum Industry, Process Heaters, LPG-fired	ICCR	2911	10 year	12
30600108	Petroleum Industry, Process Heaters, Landfill Gas-fired	ICCR	2911	10 year	4
30600111	Petroleum Industry, Process Heaters, Oil-fired (No. 6 Oil) > 100 Million Btu Capacity	ICCR	2911	10 year	37
30600199	Petroleum Industry, Process Heaters, Other Not Classified	ICCR	2911	10 year	18
30790001	Pulp and Paper and Wood Products, Fuel Fired Equipment, Distillate Oil (No. 2): Process Heaters	ICCR *	2430	10 year	12
30790002	Pulp and Paper and Wood Products, Fuel Fired Equipment, Residual Oil: Process Heaters	ICCR *	2430	10 year	9
30790003	Pulp and Paper and Wood Products, Fuel Fired Equipment, Natural Gas: Process Heaters	ICCR *	2430	10 year	169
30890001	Rubber and Miscellaneous Plastics Products, Process Heaters, Distillate Oil (No. 2)	ICCR	3079	10 year	1
30890003	Rubber and Miscellaneous Plastics Products, Process Heaters, Natural Gas	ICCR	3079	10 year	169
30890004	Rubber and Miscellaneous Plastics Products, Process Heaters, Liquefied Petroleum Gas (LPG)	ICCR	3079	10 year	1
30990001	Fabricated Metal Products, Fuel Fired Equipment, Distillate Oil (No. 2): Process Heaters	ICCR *	3431	10 year	10
30990002	Fabricated Metal Products, Fuel Fired Equipment, Residual Oil: Process Heaters	ICCR *	3431	10 year	5
30990003	Fabricated Metal Products, Fuel Fired Equipment, Natural Gas: Process Heaters	ICCR *	3431	10 year	483

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
31000401	Oil and Gas Production, Process Heaters, Distillate Oil (No. 2)	ICCR	1311	10 year	8
31000402	Oil and Gas Production, Process Heaters, Residual Oil	ICCR	1311	10 year	5
31000403	Oil and Gas Production, Process Heaters, Crude Oil	ICCR	1311	10 year	64
31000404	Oil and Gas Production, Process Heaters, Natural Gas	ICCR	1311	10 year	1774
31000405	Oil and Gas Production, Process Heaters, Process Gas	ICCR	1311	10 year	48
31000406	Oil and Gas Production, Process Heaters, Propane/Butane	ICCR	1311	10 year	4
31390001	Electrical Equipment, Process Heaters, Distillate Oil (No. 2)	ICCR *	7694	10 year	2
31390003	Electrical Equipment, Process Heaters, Natural Gas	ICCR *	7694	10 year	38
39900601	Miscellaneous Manufacturing Industries, Process Heater/Furnace, Natural Gas	ICCR *	39	10 year	35
39990001	Miscellaneous Manufacturing Industries, Distillate Oil (No. 2): Process Heaters	ICCR *	39	10 year	26
39990002	Miscellaneous Manufacturing Industries, Residual Oil: Process Heaters	ICCR *	39	10 year	20
39990003	Miscellaneous Manufacturing Industries, Natural Gas: Process Heaters	ICCR *	39	10 year	1318
39990004	Miscellaneous Manufacturing Industries, Process Gas: Process Heaters	ICCR *	39	10 year	7
	Total count				11342

* Further investigation necessary to determine whether all in count are indirect-fired process heaters or direct-fired units (e.g., dryers, kilns, etc.)

Table 2. Process Heaters Recommended for Coverage Under Another MACT Standard

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30100507	Chemical Manufacturing, Carbon Black Production, Pellet Dryer	Carbon Black Production	2895	10 year	149
30101202	Chemical Manufacturing, Hydrofluoric Acid, Rotary Kiln: Acid Reactor	Hydrogen Fluoride Production	2819	10 year	52
30102104	Chemical Manufacturing, Sodium Carbonate, Monohydrate Process: Rotary Ore Calciner: Gas-fired	Photographic Chemicals Production	2812	10 year	1
30102106	Chemical Manufacturing, Sodium Carbonate, Rotary Soda Ash Dryers	Photographic Chemicals Production	2812	10 year	4
30102822	Chemical Manufacturing, Normal Superphosphates, Curing	Phosphate Fertilizers Production	2874	10 year	2
30102824	Chemical Manufacturing, Normal Superphosphates, Dryer	Phosphate Fertilizers Production	2874	10 year	3
30102907	Chemical Manufacturing, Triple Superphosphate, Granulator: Curing	Phosphate Fertilizers Production	2874	10 year	3
30102922	Chemical Manufacturing, Triple Superphosphate, Curing	Phosphate Fertilizers Production	2874	10 year	2
30102924	Chemical Manufacturing, Triple Superphosphate, Dryer	Phosphate Fertilizers Production	2874	10 year	3
30103022	Chemical Manufacturing, Ammonium Phosphates, Curing	Phosphate Fertilizers Production	2874	10 year	2
30103024	Chemical Manufacturing, Ammonium Phosphates, Dryer	Phosphate Fertilizers Production	2874	10 year	7
30113004	Chemical Manufacturing, Ammonium Sulfate, Caprolactum By-product: Rotary Dryer	Ammonium Sulfate Production-Caprolactum By-Product Plants	2869	10 year	11

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30113005	Chemical Manufacturing, Ammonium Sulfate, Caprolactum By-product: Fluid Bed Dryer	Ammonium Sulfate Production-Caprolactum By-Product Plants	2869	10 year	3
30190004	Chemical Manufacturing, Fuel Fired Equipment, Process Gas (Ethylene Cracking Units)	Ethylene	2869	10 year	
30300002	Primary Metal Production, Aluminum Ore (Bauxite), Drying Oven	Alumina Processing	1051	10 year	13
30300105	Primary Metal Production, Aluminum Ore (Electro-reduction), Anode Baking Furnace	Primary Aluminum Production	3334	7 year	52
30300506	Primary Metal Production, Primary Copper Smelting, Ore Concentrate Dryer	Primary Copper Smelting	3331	7 year	8
30300522	Primary Metal Production, Primary Copper Smelting, Slag Cleaning Furnace	Primary Copper Smelting	3331	7 year	2
30300611	Primary Metal Production, Ferroalloy, Open Furnace, Ore Dryer	Ferroalloys Production	3313	7 year	3
30400510	Secondary Metal Production, Lead Battery Manufacture, Lead Reclaiming Furnace	Lead Acid Battery Manufacturing	3691	Deleted	8
30400526	Secondary Metal Production, Lead Battery Manufacture, Lead Reclaiming Furnace	Lead Acid Battery Manufacturing	3691	Deleted	4
30400720	Secondary Metal Production, Steel Foundries, Sand Dryer	Steel Foundries	3324, 3325	10 year	4
30500201	Mineral Products, Asphalt Concrete, Rotary Dryer: Conventional Plant	Asphalt Concrete Manufacturing	2951	10 year	1754
30500205	Mineral Products, Asphalt Concrete, Drum Dryer: Hot Asphalt Plants	Asphalt Concrete Manufacturing	2951	10 year	1160
30500210	Mineral Products, Asphalt Concrete, Asphalt Heater: Waste Oil	Asphalt Processing	2951	10 year	6
30500211	Mineral Products, Asphalt Concrete, Rotary Dryer Conventional Plant with Cyclone	Asphalt Concrete Manufacturing	2951	10 year	53
30500301	Mineral Products, Brick Manufacture, Raw Material Drying	Clay Products Manufacturing	3251	10 year	58
30500304	Mineral Products, Brick Manufacture, Curing	Clay Products Manufacturing	3251	10 year	14

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30500307	Mineral Products, Brick Manufacture, Calcining	Clay Products Manufacturing	3251	10 year	6
30500310	Mineral Products, Brick Manufacture, Curing and Firing: Sawdust Fired Tunnel Kilns	Clay Products Manufacturing	3251	10 year	15
30500311	Mineral Products, Brick Manufacture, Curing and Firing: Gas-fired Tunnel Kilns	Clay Products Manufacturing	3251	10 year	176
30500312	Mineral Products, Brick Manufacture, Curing and Firing: Oil-fired Tunnel Kilns	Clay Products Manufacturing	3251	10 year	16
30500313	Mineral Products, Brick Manufacture, Curing and Firing: Coal-fired Tunnel Kilns	Clay Products Manufacturing	3251	10 year	26
30500314	Mineral Products, Brick Manufacture, Curing and Firing: Gas-fired Periodic Kilns	Clay Products Manufacturing	3251	10 year	126
30500316	Mineral Products, Brick Manufacture, Curing and Firing: Coal-fired Periodic Kilns	Clay Products Manufacturing	3251	10 year	21
30500318	Mineral Products, Brick Manufacture, Tunnel Kiln: Wood-fired	Clay Products Manufacturing	3251	10 year	1
30500606	Mineral Products, Cement Manufacturing (Dry Process), Kilns	Portland Cement Manufacturing	3241	7 year	230
30500623	Mineral Products, Cement Manufacturing (Dry Process), Preheater/Precalciner Kiln	Portland Cement Manufacturing	3241	7 year	2
30500706	Mineral Products, Cement Manufacturing (Wet Process), Kilns	Portland Cement Manufacturing	3241	7 year	114
30500801	Mineral Products, Ceramic Clay/Tile Manufacture, Drying	Clay Products Manufacturing	3253	10 year	188
30501201	Mineral Products, Fiberglass Manufacturing, Regenerative Furnace (Wool-type Fiber)	Wool Fiberglass Manufacturing	3229	7 year	15

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30501202	Mineral Products, Fiberglass Manufacturing, Recuperative Furnace (Wool-type Fiber)	Wool Fiberglass Manufacturing	3229	7 year	7
30501205	Mineral Products, Fiberglass Manufacturing, Curing Oven: Rotary Spun (Wool-type Fiber)	Wool Fiberglass Manufacturing	3229	7 year	93
30501207	Mineral Products, Fiberglass Manufacturing, Unit Melter Furnace (Wool-type Fiber)	Wool Fiberglass Manufacturing	3229	7 year	10
30501603	Mineral Products, Lime Manufacture, Calcining: Vertical Kiln	Lime Manufacturing	3274	10 year	89
30501604	Mineral Products, Lime Manufacture, Calcining: Rotary Kiln	Lime Manufacturing	3274	10 year	197
30501605	Mineral Products, Lime Manufacture, Calcining: Gas-fired Calcimatic Kiln	Lime Manufacturing	3274	10 year	16
30501606	Mineral Products, Lime Manufacture, Fluidized Bed Kiln	Lime Manufacturing	3274	10 year	13
30501617	Mineral Products, Lime Manufacture, Multiple Hearth Calciner	Lime Manufacturing	3274	10 year	14
30501619	Mineral Products, Lime Manufacture, Calcining: Gas-fired Rotary Kiln	Lime Manufacturing	3274	10 year	1
30501702	Mineral Products, Mineral Wool, Reverberatory Furnace	Mineral Wool Production	3296	7 year	1
30501704	Mineral Products, Mineral Wool, Curing Oven	Mineral Wool Production	3296	7 year	18
30600301	Petroleum Industry, Catalytic Cracking Units, Thermal Catalytic Cracking Unit	Refinery II	2911		62
30700104	Pulp and Paper and Wood Products, Sulfate (Kraft) Pulping, Recovery Furnace/Direct Contact Evaporator	Pulp and Paper Production	2611, 2621, 2631	7 year	250
30700106	Pulp and Paper and Wood Products, Sulfate (Kraft) Pulping, Lime Kiln	Pulp and Paper Production	2611, 2621, 2631	7 year	209
30700703	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Particleboard Drying	Plywood/Particle Board Manufacturing	2435	10 year	214
30700704	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Waferboard Dryer	Plywood/Particle Board Manufacturing	2435	10 year	72
30700705	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Hardboard: Coe Dryer	Plywood/Particle Board Manufacturing	2435	10 year	21

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30700706	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Hardboard: Predryer	Plywood/Particle Board Manufacturing	2435	10 year	21
30700709	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Hardboard: Bake Oven	Plywood/Particle Board Manufacturing	2435	10 year	28
30700712	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Fir: Sapwood: Gas-fired Dryer	Plywood/Particle Board Manufacturing	2435	10 year	8
30700713	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Fir: Heartwood Plywood Veneer Dryer	Plywood/Particle Board Manufacturing	2435	10 year	14
30700714	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Larch Plywood Veneer Dryer	Plywood/Particle Board Manufacturing	2435	10 year	3
30700715	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Southern Pine Plywood Veneer Dryer	Plywood/Particle Board Manufacturing	2435	10 year	92
30700716	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Poplar Wood Fired Veneer Dryer	Plywood/Particle Board Manufacturing	2435	10 year	99
30700717	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Gas Veneer Dryer: Pines	Plywood/Particle Board Manufacturing	2435	10 year	2
	Total count				5871

Table 3. Process Heaters Recommended for Regulation by Other Means but Having No Defined MACT

SCC Code	SCC Description	Basis	SIC Code(s)	Count
30100603	Chemical Manufacturing, Charcoal Manufacturing, Batch Kiln	Pyrolysis process; being investigated by Region VII for inclusion on source category list	2861	62
30100604	Chemical Manufacturing, Charcoal Manufacturing, Continuous Kiln	Same as above	2861	7
30111201	Chemical Manufacturing, Elemental Phosphorous, Calciner	Direct-fired process	2819	2
30111202	Chemical Manufacturing, Elemental Phosphorous, Furnace	Direct-fired process	2819	3
30200504	Food and Agriculture, Feed and Grain Country Elevators, Drying	Direct-fired process	5153	444
30200522	Food and Agriculture, Feed and Grain Country Elevators, Counter-flow Dryer	Direct-fired process	5153	2
30200604	Food and Agriculture, Feed and Grain Country Elevators, Drying	Direct-fired process	4221	2706
30200742	Food and Agriculture, Grain Millings, Dry Corn Milling: Grain Drying	Direct-fired process	2041	108
30200773	Food and Agriculture, Grain Millings, Rice: Drying	Direct-fired process	2041	56
30200784	Food and Agriculture, Grain Millings, Soybean: Drying	Direct-fired process	2041	123
30201206	Food and Agriculture, Fish Processing, Direct Fired Dryer	Direct-fired process	2091	9
30201601	Food and Agriculture, Sugar Beet Processing, Pulp Dryer : Coal-fired	Direct-fired process	2063	65
30203104	Food and Agriculture, Export Grain Elevators, Drying	Direct-fired process	4221	17
30203811	Food and Agriculture, Animal/Poultry Rendering, Blood Dryer: Natural Gas Direct Fired	Direct-fired process	2077	1
30300313	Primary Metal Production, By-product Coke Manufacturing, Coal Preheater	Direct-fired process	3312	22
30301403	Primary Metal Production, Barium Ore Processing, Dryers/Calciners	Direct-fired process	3295	123
30400207	Secondary Metal Production, Copper, Scrap Dryer (Rotary)	Direct-fired process	3362	10
30400231	Secondary Metal Production, Copper, Scrap Dryer	Direct-fired process	3362	14
30400807	Secondary Metal Production, Zinc, Concentrate Dryer	Direct-fired process	3341	4
30400901	Secondary Metal Production, Malleable Iron, Flux Furnace	Direct-fired process	3322	3

SCC Code	SCC Description	Basis	SIC Code(s)	Count
30402004	Secondary Metal Production, Furnace Electrode Manufacture, Bake Furnaces	Direct-fired process	3624	36
30402201	Secondary Metal Production, Metal Heat Treating, Furnace: General	Direct-fired process	3398	440
30404901	Secondary Metal Production, Miscellaneous Casting and Fabricating, Wax Burnout Oven	Direct-fired process	3300	18
30404902	Secondary Metal Production, Miscellaneous Casting and Fabricating, Wax Burnout Oven	Direct-fired process	3300	1
30500402	Mineral Products, Calcium Carbide, Coke Dryer	Direct-fired process	2819	13
30500501	Mineral Products, Castable Refractory, Raw Material Dryer	Direct-fired process	3255	25
30500504	Mineral Products, Castable Refractory, Curing Oven	Direct-fired process	3255	58
30500915	Mineral Products, Clay and Fly Ash Sintering, Rotary Kiln	Direct-fired process	3295	13
30500916	Mineral Products, Clay and Fly Ash Sintering, Dryer	Direct-fired process	3295	9
30501211	Mineral Products, Fiberglass Manufacturing, Regenerative Furnace (Textile-type Fiber)	Direct-fired process	3229	1
30501212	Mineral Products, Fiberglass Manufacturing, Recuperative Furnace (Textile-type Fiber)	Direct-fired process	3229	41
30501213	Mineral Products, Fiberglass Manufacturing, Unit Melter Furnace (Textile-type Fiber)	Direct-fired process	3229	4
30501215	Mineral Products, Fiberglass Manufacturing, Curing Oven (Textile-type Fiber)	Direct-fired process	3229	49
30501311	Mineral Products, Frit Manufacture, Rotary Dryer (usually not used with a continuous furnace)	Direct-fired process	2899	2
30501401	Mineral Products, Glass Manufacture, Furnace/General	Direct-fired process	3211	29
30501402	Mineral Products, Glass Manufacture, Container Glass: Melting Furnace	Direct-fired process	3221	203
30501403	Mineral Products, Glass Manufacture, Flat Glass: Melting Furnace	Direct-fired process	3211	72
30501404	Mineral Products, Glass Manufacture, Pressed and Blown Glass: Melting Furnace	Direct-fired process	3229	66
30501414	Mineral Products, Glass Manufacture, Ground Cullet Beading Furnace	Direct-fired process	3211	13
30501501	Mineral Products, Gypsum Manufacture, Rotary Ore Dryer	Direct-fired process	3275	66

SCC Code	SCC Description	Basis	SIC Code(s)	Count
30501511	Mineral Products, Gypsum Manufacture, Continuous Kettle: Calciner	Direct-fired process	3275	80
30501512	Mineral Products, Gypsum Manufacture, Flash Calciner	Direct-fired process	3275	39
30501520	Mineral Products, Gypsum Manufacture, Drying Kiln	Direct-fired process	3275	50
30501801	Mineral Products, Perlite Manufacturing, Vertical Furnace	Direct-fired process	3295	34
30501901	Mineral Products, Phosphate Rock, Drying	Direct-fired process	1475	42
30501905	Mineral Products, Phosphate Rock, Calcining	Direct-fired process	1475	21
30501906	Mineral Products, Phosphate Rock, Rotary Dryer	Direct-fired process	1475	2
30502102	Mineral Products, Salt Mining, Granulation: Stack Dryer	Direct-fired process	1476	19
30502720	Mineral Products, Industrial Sand and Gravel, Sand Drying: Gas- or Oil-fired Rotary or Fluidized Bed Dryer	Direct-fired process	1442	2
30503202	Mineral Products, Asbestos Milling, Drying	Direct-fired process	1499	1
30503402	Mineral Products, Feldspar, Dryer	Direct-fired process	1499	2
30504033	Mineral Products, Mining and Quarrying of Nonmetallic Minerals, Ore Dryer	Direct-fired process	1400	41
30508909	Mineral Products, Talc Processing, Natural Gas Fired Crude Ore Dryer	Direct-fired process		1
30508955	Mineral Products, Talc Processing, Pellet Dryer	Direct-fired process		3
30800705	Rubber and Miscellaneous Plastics Products, Fiberglass Resin Products, Wax Burnout Oven	Direct-fired process	3079	19
	Total count			5296

Table 4. Process Heaters Being Investigated for Inclusion in ICCR

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30100108	Chemical Manufacturing, Adipic Acid, Dryer		2869		1
30104201	Chemical Manufacturing, Lead Alkyl Manufacturing (Sodium/Lead Alloy Process), Recovery Furnace		2869		3
30112541	Chemical Manufacturing, Chlorine Derivatives, Vinyl Chloride: Cracking Furnace		2869		3
30490023	Secondary Metal Production, Fuel Fired Equipment, Natural Gas		3300		4
30490031	Secondary Metal Production, Fuel Fired Equipment, Distillate Oil: Furnaces		3300		5
30490033	Secondary Metal Production, Fuel Fired Equipment, Natural Gas: Furnaces		3300		355
30490034	Secondary Metal Production, Fuel Fired Equipment, Process Gas: Furnaces		3300		36
30490035	Secondary Metal Production, Fuel Fired Equipment, Propane		3300		1
30790021	Pulp and Paper and Wood Products, Fuel Fired Equipment, Distillate Oil (No. 2)		2430		1
39990022	Miscellaneous Manufacturing Industries, Residual Oil		39		1
	Total count				410

Table 5. Process Heaters Recommended for Moving to Another ICCR Source Category

SCC	SCC Description	MACT Project	SIC	"Bin"	Count
30890013	Rubber and Miscellaneous Plastics Products, Process Heaters, Natural Gas: Incinerators	ICCR (incinerators)	3079	10 year	17
30902501	Fabricated Metal Products, Drum Cleaning/Reclamation, Drum Burning Furnace	ICCR (incinerators)	5085	10 year	60
31000411	Oil and Gas Production, Process Heaters, Distillate Oil (No. 2):	ICCR (boilers)	1311	10 year	4
31000414	Oil and Gas Production, Process Heaters, Natural Gas: Steam Generators	ICCR (boilers)	1311	10 year	122
31000415	Oil and Gas Production, Process Heaters, Process Gas: Steam Generators	ICCR (boilers)	1311	10 year	41
	Total count				244

Attachment 4
Expanded Tables Used to Review Recommendations to the Coordinating Committee

Table 1. Process Heaters: Information Gathering Recommended Through The ICCR

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
30190001	Chemical Manufacturing, Fuel Fired Equipment, Distillate Oil (No. 2): Distillate Heaters		ICCR	2869	10 year	20
	Huls America, Inc.	*Entire source*	*Hot oil fce.*			
	Neville Chemical Co.	*Boiler/air stripper*	*Still htr., waste oil*			
	Ozark Mahoning Co.	*Mining or prep., fluorospar*	*Rotary kilns*			
	Ranbarr Technology, Inc. (Ball Chemical Co.)	*Natural gas-fired boiler*	*Hot oil htr., FO*			
	Reichold Chemicals, Inc., Bridgeville	*NG-fired reactor*	*Therminol fce.*			
	Reilly Industries, Inc.	*Synthetic chemicals*	*BD2714V*			
	The Dallas Group of America		*Boiler*			
	The Valspar Corp.	*Paints and allied products*	*Mobil-therm htr., 3000*			
	Arco Chemical Co.; General Chemical Corp.; Monsanto Co.; Westlake Monomers, Inc.					
30190002	Chemical Manufacturing, Fuel Fired Equipment, Residual Oil: Process Heaters		ICCR	2869	10 year	21
	Reilly Industries, Inc.	*Synthetic chemicals*	*DAB 732714; PP 702611; BXS 2706Q; AP 722804; BT 2728S; EP 2729Q; BM 2724W; FC 2607T; BS 2740Q; BX 2707 V*			
	DuPont Edgemoor; IMC-Agrico Chemical Co., New Wales; Keeshan and Bost Chemical Co.					

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
30190003	Chemical Manufacturing, Fuel Fired Equipment, Natural Gas: Distillate Heaters		ICCR	2869	10 year	773
	ADM Corn Processing	*Grain dryers-industrial organic chem.*	*Gas dryer for d*			
	Agrium US, Inc.	*Crop production services*	*Dryer*			
	Air Products Mfg. Corp.		*Schultz hydrogen reformer*			
	Albemarle Corp.	*Industrial organic chemicals*				
	Alliant TechSystems, Inc., Bacchus Works	*Aircraft engines*	*HVAC htr.; Hot water htr.*			
	Allied-Signal, Metropolis Works	*Medicinals and botanicals*	*B-top hydrofluorinator; NG-fired calcine; NG-fired dryer; B-bottom hydrofluorinator; A-reductor; B-reductor*			
	American Cyanamid, Co.	*Nitrogenous fertilizers*				
	Amoco Chemical Co.		*Hot oil fce.*			
	Arcadian Fertilizer, L.P.	*Nitrogenous fertilizers*	*Gas fce.*			
	ASARCO, Inc.	*Primary lead smelter*	*Acid plant*			
	Ashland Chemical Corp.	*Industrial inorganic chemicals*	*Hot oil htr.*			
	Autostyle Plastics, Inc., Kendrick Facility		*Compression molding; Horizontal rim molding; Vertical rim molding*			
	BASF, Corp., Wyandotte Site		*Air htr.-spray dryer*			
	Biolab, Inc.	*Mfg. plant*	*Flash dryer*			
	Borden Packaging and Industrial Products	*Chemical Mfg.*				
	Cabot Corp.	*Mfg. carbon black*				

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Calgon Carbon Corp.	*Chemical products*	*Furnace, prime act, NG; Baker impreg. NG; Cooperite VFBD preheater; Kiln burner; Kiln preheater; SCCW manuf. NG; Pellet dryers, NG; Baker burners*			
	Cametco, Inc.	*Calcium fluoride process*				
	Cargill, Inc.	*Alkyd and polyester resins*				
	Columbian Chemical		*Dryer stack*			
	Condea Vista	*Plastics materials and resins*	*Resin dryer burner*			
	Coronet Industries		*KBF4 plant w/DU*			
	Cozinco, Inc.	*Primary zinc*	*Spray dryer*			
	Croda Apex Adhesives		*NG-fired pro*			
	Cytec Industries	*AFI/UXO processes*				
	Dow Brands-Personal Care	*Hair care products*	*Bottle flamers*			
	E.I. duPont de Nemours and Co.	*Mfg. automobile finishes*	*Resin reactor; Primer mfg.*			
	E.I. duPont	*Chemicals*	*Sodium silicate fce.*			
	Eagle Alloy, Inc.		*Process heaters gas*			
	Eastman Chemical Co.	*Petrochemicals mfg.*				
	E.I. duPont de Nemours and Co., In	*Fluorocarbons, HCl*				
	Farmland Hydro, L.P.		*MAP, DAP fertilizer*			
	Farmland Industries, Hastings	*Nitrogeneous fertilizers*	*Gas ammonia htr.*			
	Farmland Industries, Inc.		*Start-up htr., NG*			
	FMC-Trona	*Soda ash production*	*NaCN process preheat*			
	Ford Motor Co., Livonia Transmission Plant		*Thermal deburring*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Frigidare Co.	*Mfg. plant*	*Cabinet foam system; Door foam system*			
	Gallagher Corp.		*Polyurethane molding oven*			
	General Chemical Corp.		*Sulfuric acid, 98 percent*			
	General Electric	*Plastics Materials and Resins*	*Hot oil fce.*			
	Guardsman Products, Inc.		*One wipe treatment*			
	Hayes Wheels International, Inc.		*Wet paint line; Powder paint line*			
	Henkel Adhesives Corp.		*Gas-fired hot oil boiler*			
	Henkel Corp.	*Industrial organic chemicals*	*Hot oil system, g*			
	Hercules Composite Materials	*Graphite fiber production*	*Small boiler; HVAC htr.*			
	Hoechst Celanese Chemical Group, Ltd.	*Butyric/prionic unit; Organic chemicals mfg.*				
	Hoechst Celanese Corp.		*NG-fired boiler/tanks*			
	Hoechst Celanese Engineering Resins	*Organic chemicals and resins*				
	Holley Automotive Division	*Administrative engineering*	*Water htr.*			
	Imperial Metal Products	*Mfg. plant*	*Vapor degreaser*			
	Kalama Chemical	*Industrial organic chemicals*	*Heater*			
	Lasco Bathware		*Gel coat; Barrier coat; Lamination*			
	Lomac, Inc.	*Mfg. plant*	*Wand XLR htr.; Zimpro htr.*			
	Lyondell Petrochemical Co.	*High density polyethylene*				
	McWhorter Technologies	*Plastic materials and resins*	*NG-fired hot oil htr.*			
	Metal Components, Inc.		*Hot water htr.*			
	Midland Chemical Corp.		*Process heating*			
	Nanya Plastics Corp.	*PVC blending and film mfg.*				

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Nestle Food Co.	*Dry/condensed/dairy prod.*	*Vertical spray dryer*			
	Neville Chemical Co.	*Boiler/air stripper*	*Still process htr., NG; Packaging ctr. htr., NG*			
	NGC Energy Resources	*Gas plant*	*Glycol htr.; Regen gas htr.; Hot oil htr.; Stabilizer htr.*			
	Oxychem, Inc.	*Olefins production*				
	Ozark Mahoning Co.	*Mining or prep. fluorospar*	*Rotary kiln*			
	Penninsula Copper Industries	*Copper leaching plant*	*Rotary distillers*			
	Phillips 66 Co.	*Petrochemicals*				
	PPG Industries		*Dowtherm htr.; Ethylene vaporizer; Exceltherm heat*			
	PPG Industries, Inc.	*Adrian C&R*	*Rubber mill; Hot oil boiler*			
	Praxair, Inc.	*Industrial inorganic chemicals*	*Regen htr.*			
	Ranbar Technology, Inc. (Ball Chemical Co.)		*NG-fired boiler*			
	Reichold Chemicals, Inc., Bridgeville	*NG-fired reactor*	*Therminol fce.; Dowtherm vaporizer*			
	Reilly Industries, Inc.	*Synthetic chemicals*	*Still htr.; Kettle htr.*			
	Rexene Corp.	*Petrochemical producst mfg.*				
	Rhone-Poulenc Basic Chemicals Co.	*Industrial inorganic chemicals*	*NG*			
	Riba Corp.		*Hot oil htr.*			
	Romeo Rim, Inc.		*Rim molding presses; Oven*			
	Shell Chemical Co.		*Dehydrogenation*			
	Silbond Corp.		*Hot oil boiler*			
	Sterling Group, Sewickly	*Paints and allied products*				

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	The Dallas Group of America		*Dryer; Boiler*			
	Universal Oil Products Co., Process Div.	*Chemical preparations, nec*	*Direct-fired oven*			
	Unocal Urea Plant	*Ammonia-urea plant*	*Power section; Ammonia plant; Urea plant*			
	Upjohn Co., Portage Road Facility		*NG fuel equipment*			
	Varian X-ray Tube Productions	*Electron tube mfg.*	*Water htr.; Heating*			
	Vulcan Chemicals	*Alkalies and chlorine*				
	Wacker Silicones Corp.		*Hot oil htr.*			
	Westvaco Corp.	*Extruded carbon operation*				
	Witco Corp.		*Kiln*			
	Woodbridge Corp.	*Mfg. plant*	*Oven line*			
	Akzo Nobel Chemicals, Inc.; Allied-Signal; ARCO Chemical Co.; Baker Performance Chemicals, Inc.; BASF Corp. Coatings and Color; Beaumont Methanol LTD Partnership; Catalyst Resources, Inc.; Chevron Chemical Co.; Dixie Chemical Co.; Dow Chemical, Luddington Plant; DuPont, Washington Works; DuPont, Edgemoor; EGP Fuels Co.; ELF Atochem North America, Inc.; Enterprise Products Co.; Exxon Chemical Co.; Fina Oil and Chemical Co.; Flint Ink Corp.; FMC Nitro; Formosa Plastics Corp.; Geon Co.,; Georgia Gulf Corp.; Global Octanes Corp.; Haltermann, Ltd.; Hampshire Chemical Corp.; Huntsman Chemical Corp.; ICI Acrylics, Inc.; ICI Americas, Inc.; IMC Agrico Chemical Co.; ISK Biotech Corp.; ISP Technologies, Inc.; Jasper Co. Farm Bureau Coop Assn., Inc.; Johnson Controls; Kincaid Enterprises, Inc.; KMCO, Inc.; Lonza, Inc.; Lubrizol Corp.; Lubrizol Petroleum Chemicals Co.; Merichem Co.; Mobil Chemical Co.; Monsanto Co.; Mt. Clemens Coatings; Natural Gas Odorizing, Inc.; Occidental Chemical Corp.; Olin Chemical; Petrolite Corp.; Phillips Chemical Co.; Pilot Industries of TX, Inc.; Quantum Chemical Corp.; Rheox, Inc.; Rhom and Haas Texas, Inc.; Schenectady International, Inc.; Solvay Polymers, Inc.; Texas Petrochemicals Corp.; The Dow Chemical Co.; Union Carbide, South Charleston; Vintage Petroleum, Inc.;					
30190004	Chemical Manufacturing, Fuel Fired Equipment, Process Gas		ICCR	2869	10 year	71
	Amoco Petroleum Products	*Petroleum refining*				
	Aristech Chemical Corp., Neal Plant		*Nitrogen htr.*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Borden Packaging and Industrial Prod.	*Chemical mfg.*				
	Cabot Corp., Ohio River Plant	*Carbon black*				
	Citgo Refining and Chemicals, Inc.	*Petroleum refining*				
	Columbian Chemical		*Dryer stack*			
	Eastman Chemical Co.	*Petrochemicals mfg.*				
	Rexene Corp.	*Polyolefins mfg.*				
	Shell Oil Co., NMC Ref.		*Dryer regenerator*			
	Vulcan Chemicals	*Alkalies and chlorine*				
	Arco Chemical Co.; Chevron Chemical Co.; Goodyear Tire and Rubber Co.; Huntsman Corp.; Mobil Chemical Co.; Shell Oil Co.; The Dow Chemical Co.					
30290001	Food and Agriculture, Fuel Fired Equipment, Distillate Oil (No. 2)		ICCR *	2077	10 year	21
	Agri Sales, Inc.		*Town and country*			
	Belvidere Farmer Exchange, Inc.	*Grain mill products*				
	Brooks Foods		*Fuel use*			
	Countrymark Cooperative, Inc.		*Dryer*			
	Darling International, Inc.		*Cooker; Press; et*			
	Perdue Farms, Inc.	*Poultry processing*				
	Purina Mills, Inc.	*Feed mill*				
	Sierra Conservation Center	*State prison*	*Cooking stove*			
	Swift Eckrich, Inc.	*Meat processing plant and f*	*NG boiler*			
	Sylvest Farms, Inc.	*Grain mill products*	*Boiler*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Townsends, Inc., Agri-Products Group	*Prepared feeds*	*Grain dryers*			
	Tropicana Products, Inc.		*Boiler*			
	Bayboro Dehydrating Co., Inc.; Cargill, Inc.;					
30290002	Food and Agriculture, Fuel Fired Equipment, Residual Oil		ICCR *	2077	10 year	29
	Alcoma Packing Co.		*Citrus peel dryer; Boiler*			
	General Mills, Inc.	*Flour and other grain mill*	*Puffer*			
	Indian River Foods		*Peel dryer*			
	Michigan Sugar Co.		*Pulp dryer*			
	Rainbow Baking, Oklahoma City	*Baking company*	*NG-combustion bread oven; NG-combustion bun oven; Boiler*			
	Southern Gardens Citrus Processing Corp.		*Cirtus feed mill with was*			
	Tater Meal, Inc./McCain Foods	*Dehy fruits vegetable soups*				
	Tropicana Products, Inc.		*Peel dryer and waste heat; Steam generator*			
	Hercules					
30290003	Food and Agriculture, Fuel Fired Equipment, Natural Gas		ICCR *	2077	10 year	506
30290005	Food and Agriculture, Fuel Fired Equipment, Process Heaters: LPG		ICCR *	2077	10 year	4
	Countrymark Cooperative, Inc.		*Grain dryer*			
	Doane Product Co.	*Pet foods*				
	Jacks Bean Co.	*Bean/popcorn cleaning*	*Grain dryer*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
30390001	Primary Metal Production, Fuel Fired Equipment, Distillate Oil (No. 2): Process Heaters		ICCR *	3333	10 year	20
	Bethlehem Steel Corp.	*Steel products*	*Normalizing fce.; Annealing fce.; Space heating*			
	Copper Range Co.	*Copper mine mill refinery*	*Converter; Reverb fce.; Anode fce.*			
	Cyrus Copperstone Gold Corp.		*Desorption thermal htr.*			
	Glenbrook Nickel Co.	*Primary smelting*	*Plant site diesel use*			
	Tilden Mining Co.		*Ore dryer*			
	Aluminum Extrusion Corp; GE Aircraft Engines; MDI Caribe, Ltd.					

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
30390002	Primary Metal Production, Fuel Fired Equipment, Residual Oil: Process Heaters		ICCR *	3333	10 year	14
	Bethlehem Steel Corp.	*Steel products*	*Hot strip mill fce.; Blast fce. c stove; Power station boiler*			
	EI du Pont de Nemours and Co.		*Zircon rotary kiln; Ilmenite dryer; Zircore dryer*			
	Glenbrook Nickel Co.	*Primary smelting*	*Plant site resid oil*			
30390003	Primary Metal Production, Fuel Fired Equipment, Natural Gas: Process Heaters		ICCR *	3333	10 year	365
30390004	Primary Metal Production, Fuel Fired Equipment, Process Gas: Process Heaters		ICCR *	3333	10 year	63
	Bethlehem Steel Corp.	*Steel products*	*Power station boiler; Plate station boiler; Plate continuous fce.; Blast fce. flare; Hot strip mill fce.; Plate batch fce.; Blast fce. c stove; Coke oven underfire battery; Soaking pits*			
	Case Corp., Racine Tractor Plant	*Farm machniery and equipment*	*Heat treat*			
	Geneva Steel	*Integrated steel mill*	*Coke battery*			
	National Steel Corp., Great Lakes Div.		*Annealing bldg.; Blast fce., Slab heating fce.*			
	Shenango Iron and Coke Works	*Coke ovens*	*Blast fce. preheat*			
	US Steel, Gary Works	*Iron and steel fabrication and prod.*	*BOP ladle preheaters; BOP ladle dryers*			
	Weirton Steel Corp.	*Blast furnaces and steel*				
	Rouge Steel Co.					
30490001	Secondary Metal Production, Fuel Fired Equipment, Distillate Oil (No. 2): Process Heaters		ICCR *	3300	10 year	11
	Chester Tire Mold	*Aluminum tire mold castings*	*Reverb fce.*			

SCC Code	SCC Description			MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*		*Combustor Description*			
	Fagan Iron and Metal	*Metal salvage*		*Aluminum melter*			
	Ford Michigan Proving Grounds			*Boiler*			
	Mobile Pulley and Machine Works	*Dredging equipment mfg.*		*Fuel oil*			
	Portland Iron and Metal, Inc.			*Aluminum sweat fce.*			
	Reynolds Metals Co. Alloys Plant	*Secondary nonferrous metals*		*Reheat fce.*			
30490002	Secondary Metal Production, Fuel Fired Equipment, Residual Oil: Process Heaters			ICCR *	3300	10 year	1
	Caterpiller, Inc.	*Gray iron foundries*		*Drying robots*			
30490003	Secondary Metal Production, Fuel Fired Equipment, Natural Gas			ICCR *	3300	10 year	610
30490004	Secondary Metal Production, Fuel Fired Equipment, Process Gas: Process Heaters			ICCR *	3300	10 year	34
	Dutton Lainson	*Transportation equp.*		*Brazer*			
	General American Transportation Corp.	*Rail car*		*Stress relief fce.*			
	General Motors Corp.; Delco Chasis Div., Livonia			*Heat treat fces.*			
	Warren Wastewater Treatment Plant			*Incinerator*			
	Bethlehem Steel Corp.; GMC Central Foundry Div.; GMC Delco Products Div.;						
30590001	Mineral Products, Fuel Fired Equipment, Distillate Oil (No. 2): Process Heaters			ICCR *	4463	10 year	78
	Advanced Paving Co., Inc.			*Asphalt drum-dryer plant*			
	Bird, Inc.	*Asphalt felts and coating*					
	Bissen Blacktop, Inc.	*Asphalt plant*		*Cedar Rapids plant*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Blythe Industries, Inc., Monroe Plant	*Paving mixtures and block*				
	Brooks Construction Co., Inc.		*Asphalt mix batch plant*			
	Brush-Wellman	*Beryllium source*	*Process steam boiler*			
	Celotex Corp.	*Asphalt felts and coating*				
	Certainteed Corp.	*Asphalt shingle mfg.*				
	Consumers Concrete Corp.		*Sand htr.*			
	D.B. Hodgins Paving Co.		*Process htr.*			
	Daanen and Janssen, Inc.		*Crushers; Screening*			
	Dragon Products Co.	*Crushed and broken stone*				
	ECC International, Calcium Products		*Raymond mill*			
	E.R. Jahna Industries, Inc.		*Limerock dryer*			
	G.A. and F.C. Wagman, Inc.		*Portable concrete plant*			
	G.E. Goding and Sons	*Ready-mixed concrete*				
	Hickson-Dan Chemicals, Inc.		*Oil/NG boiler*			
	Howard Quarries	*Crushed and broken limestone*				
	MC-Agrico Co., Lonesome Mine		*Fuel preheater*			
	Industrial Minerals	*Ground calcium borate*	*Mill hot air fce.; Dryer; Mill fce.*			
	ISP Minerals, Inc.	*Minerals, ground/treated*	*Aerators; Kiln; Preheater*			
	J.H. Rudolph and Co., Inc.	*Asphalt and concrete*	*Asphalt concrete plant*			
	J.T. Russell and Sons, Inc.	*Paving mixtures and block*				
	Kyanite Mining Corp.	*Kyanite railcar loadout*	*Mullite kilns*			
	Michigan Colprovia Co.	*Asphalt paving plant*	*Ashpalt htr.*			
	Morton International, Inc.	*Chemical preparations, ne*				

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Oil-Dry Products Co.	*Minerals, ground or treat*				
	Payne and Dolan, Vienna Quarry		*Asphalt plant*			
	PCS Phosphate Co., Inc.	*Crushed and broken limestone*	*Drilling, limestone*			
	Piedmont Minerals Co., Inc.	*Mineral mining and milling*				
	Piney Point Phosphates, Inc.		*DAP plant mfg. and storage*			
	Sargent Sand Co.		*Sand dryer*			
	Spaulding Composites Co.	*Misc. plastics production*	*Rx water burn-off*			
	Vans Material		*Aggregate htr.; Water htr.*			
	Walsh and Kelly, Inc.	*Paving mixtures and block; Asphalt paving compounds; Drum mix asphalt plant*	*Asphalt batch plant; Process htr.; Asphalt drum plant; Asphalt plant and htr.*			
	Barrus Construction Co., Fountain Plant; Dayton Sand and Gravel Co., Inc.; Ferraiolo Construction Co., Inc.; Lane Construction Corp.; Medusa Cement Co.; Stiles and Hart Brick; Superior Paving, Buffalo Shoals Road					
30590002	Mineral Products, Fuel Fired Equipment, Residual Oil: Process Heaters		ICCR *	4463	10 year	15
	Celotex Corp.		*Calcining kettle burner*			
	IMC-Agrico Co.		*Phosphate rock dryer; Fluid bed*			
	Kyanite Mining Corp.	*Kyanite railcar loadout*	*Millite kiln*			
	Occidental Chemical Corp.	*Industrial inorganic chem.*	*Open hearth glass fce.*			
	Oil-Dry Products Co.	*Minerals, ground or treat*				
	Payne and Dolan, Vienna Quarry		*Asphalt plant*			
	Porter Wyett Co.	*Asphalt plant, rock crush*				
	Rieth Riley Construction Co., Inc.		*Burner*			
	White Construction Co.		*Asphalt batch plant*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Lane Construction Corp.					
30590003	Mineral Products, Fuel Fired Equipment, Natural Gas: Process Heaters		ICCR *	4463	10 year	278
30600101	Petroleum Industry, Process Heaters, Oil-fired		ICCR	2911	10 year	9
30600102	Petroleum Industry, Process Heaters, Gas-fired		ICCR	2911	10 year	56
30600103	Petroleum Industry, Process Heaters, Oil-fired		ICCR	2911	10 year	470
30600104	Petroleum Industry, Process Heaters, Gas-fired		ICCR	2911	10 year	3198
30600105	Petroleum Industry, Process Heaters, Natural Gas-fired		ICCR	2911	10 year	483
30600106	Petroleum Industry, Process Heaters, Process Gas-fired		ICCR	2911	10 year	798
30600107	Petroleum Industry, Process Heaters, LPG-fired		ICCR	2911	10 year	12
30600108	Petroleum Industry, Process Heaters, Landfill Gas-fired		ICCR	2911	10 year	4
30600111	Petroleum Industry, Process Heaters, Oil-fired (No. 6 Oil) > 100 Million Btu Capacity		ICCR	2911	10 year	37
30600199	Petroleum Industry, Process Heaters, Other Not Classified		ICCR	2911	10 year	18
30790001	Pulp and Paper and Wood Products, Fuel Fired Equipment, Distillate Oil (No. 2): Process Heaters		ICCR *	2430	10 year	12
	Forest Energy Corp.		*Dryer*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	James River Corp., Groveton	*Paper mills exc building*	*PO-BP*			
	Kerr-McGee Chemical Corp.		*Primary boiler*			
	Lincoln Pulp and Paper Co., Inc.	*Pulp mills*				
	Louisiana Pacific Corp.		*Wafer dryer; Thermal oil htrs.*			
	S.D. Warren Co., Scott Paper Co.	*Paper and paper products*				
	Virginia Mfg. Co., Inc.	*Add to coating booths*				
	Indian Head Plywood					
30790002	Pulp and Paper and Wood Products, Fuel Fired Equipment, Residual Oil: Process Heaters		ICCR *	2430	10 year	9
	Container Corp. of America		*RB-S or C rec/boilers; Recy boiler*			
	Georgia Pacific Corp., Conway	*Hardboard plant*				
	Thompson McCully Co.		*Asphalt drum mixer*			
	Weyerhaeuser Paper Co., Plymouth		*Hog fuel boiler*			
	Leaf River Forest Products; Mead Paper Co.; S.D. Warren Co.					
30790003	Pulp and Paper and Wood Products, Fuel Fired Equipment, Natural Gas: Process Heaters		ICCR *	2430	10 year	169
	Abtco, Inc.	*Mfg. plant*	*Hardboard bake oven; Sludge dryer; Press; Roll coater; Predryer; Coe dryer*			
	Afco Industries, Inc.	*Tile board plant*	*Bake oven*			
	American Fibrit Inc.		*Konus oil htr.*			
	American Heating Co.	*Mfg. of furniture and seat*	*Paint hook burn unit*			
	Appleton Mills		*NG-fired dryer; NG-fired singe burner; NG-fired air make*			
	Appleton Papers Inc., Locks Mill	*Paper processing*	*Papermaking processes; Misc. gas-fired htrs.*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Armstrong World Industries, Inc.	*Building paper mfg., blr., rck cr*	*NG combustion*			
	Baldwin Filters	*Mfg.*	*Plasma cutting of wire; NG curing oven*			
	Bessemer Plywood Corp.	*Plywood mfg.*	*Veneer dryers*			
	Boise Cascade Corp.	*Kraft paper mill; Particleboard mfg.; Sawmill*	*Paper mach., NG; NG furnish dryers; Direct steam generator; Power boiler*			
	Brandom Mfg. Co., Inc.	*Cabinet mfg.*				
	Bright Wood Corp.	*Millwork*	*Space htrs.*			
	Broyhill Furniture Industries		*Process combustion*			
	Cansorb Industries Corp.	*Wood products, nec*				
	Capitol Excavating and Paving		*Asphalt drum mixer*			
	Caravelle Wood Products, Inc.	*Wood kitchen cabinets*	*Coating line ovens*			
	Celotex Corp.	*Accoustical tile mfg.*	*Dryer*			
	Champion International Corp.	*Quinnesec pulp and paper mill*	*Lime kiln; Recovery boiler*			
	Consol Papers, Inc., Stevens Point Div.		*Paper machine; Off machine blade coater*			
	Converters Paperboard Co.	*Paperboard mill*	*Boiler*			
	Crown Vantage	*Paper mfg.*	*Wart.; Yankee hood dry end; Size press; Yankee hood wet end; Yankee hood; Parchment*			
	Davey Co., Aurora Paperboard Div.	*Die-cut paper and board*	*Gas-fired paper dryers*			
	Dubois Wood Products, Inc.		*Oven*			
	Fenestra Corp., Oshkosh Wood Door Div.	*Wood doors*	*Space htr.s; "Johnson unit" floor*			
	Fleetguard, Inc.	*Motor vehicle parts and accessories*	*Paper cur system*			
	Fletcher Paper Co.		*IR dryer*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Fort Howard Paper Co.	*Paper mill (recycled)*				
	GP: Catawba	*Hardboard mfg.*				
	Herman Miller, Inc.		*Lam line htr.*			
	Hoffmaster, Div. of Fonda Group, Inc.		*Encapsulated coatings on*			
	International Paper Co.	*Paper mills exc building*				
	James River II, Inc.	*Kraft paper mill*	*NG paper machine and winder; NG recovery fce.; NG convert plant; NG pulp dryer; Propane pulp dryer*			
	Kerr-McGee Chemical Corp.		*Primary boiler*			
	Kimberly-Clark, Diaper Mfg.		*Heaters*			
	Kimberly-Clark Corp., Munising Paper Mill		*Coater-process htr.; Infrared burner; Coater, burner*			
	Kirsch Div.		*JWI dryer*			
	Lignetics of Idaho	*Wood pelletizing*	*Drum dryer*			
	Louisiana Pacific Corp.		*T/O backup htr.; Wafer dryers*			
	Manthei Inc. Veneer Mill		*Heating and dry oven; Press veneer dryer*			
	Marion Plywood Corp.	*Hardwood veneer and plywood*				
	Mead Paper Co., Escanaba Mill		*Coater drying*			
	Menasha Corp.	*Paperboard div. mfg. plant*	*Coal car htr.*			
	Michigan Seat Co.		*Water evaporator*			
	Niagara of Wisconson Paper Corp.	*Groundwood pulp/paper mill*	*NG-fired IR*			
	Pope and Talbot Pulp, Inc.	*Kraft pulp mill*				
	Schrock Cabinet Co.	*Wood household furniture*				

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Schuller International	*Building paper and board mills*				
	Sweetheart Cup Corp.		*Plastic printing gas heat*			
	The Chinet Co.	*Molded fiber products*	*Pulp dryer*			
	Thilmany Pulp and Paper Co.	*Paper mills exc building*	*Paper machine coat*			
	Thompson McCully Co.		*Asphalt drum mixer*			
	Travis Lumber Co., Inc.	*Sawmill*	*Drying kiln*			
	Waldorf Corp.	*Paperboard mfg.*				
	Weyerhaeuser Co.	*Structurewood plt.; Lumber and woodworking; Plywood, particleboard, hardboard mfg.*	*Thermal oil htrs.; Mineral core gas dryer; Core dryer*			
	Willamette Industries, Inc.	*Particleboard mfg.*	*NG UV paintline*			
	Abitibi-Price Corp.; Dallas Woodcraft Inc.; GMC AC Rochester Flint Eas; S.D. Warren Co.; Texwood Industries, Inc.; Triangle Pacific Corp.; Westvaco					
30890001	Rubber and Miscellaneous Plastics Products, Process Heaters, Distillate Oil (No. 2)		ICCR	3079	10 year	1
30890003	Rubber and Miscellaneous Plastics Products, Process Heaters, Natural Gas		ICCR	3079	10 year	169
30890004	Rubber and Miscellaneous Plastics Products, Process Heaters, Liquefied Petroleum Gas (LPG)		ICCR	3079	10 year	1
30990001	Fabricated Metal Products, Fuel Fired Equipment, Distillate Oil (No. 2): Process Heaters		ICCR *	3431	10 year	10
	Cerco Corp.		*Heating fce.*			
	Cooperheat	*Heating for ovens*	*Propane fce. for ovens*			
	Elm Die Cutting Corp.		*Fce.*			
	Jasper Laminates		*Glue booths*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Kodak-Elmgrove	*Photographic equipment and sy*				
	Saturn Corp.	*Experimental mfg.*	*Despatch convention oven*			
	Snap-On Tools Corp.	*Hand and edge tools, nec*	*Forge fces.*			
	Martin-Marietta, Aero and Naval Systems; Quaker Window Products Co.					
30990002	Fabricated Metal Products, Fuel Fired Equipment, Residual Oil: Process Heaters		ICCR *	3431	10 year	5
	GAF Building Materials Corp.					
30990003	Fabricated Metal Products, Fuel Fired Equipment, Natural Gas: Process Heaters		ICCR *	3431	10 year	483
	ABC Rail Corp.	*Iron and steel forgings*	*Walking be; Tempering*			
	Ace Anodizing and Impregnating, Inc.		*Preheat oven*			
	Acme Barrel Co.	*Business services, nec*	*Gas-fired drum preheater*			
	Admiral Div. of the Maytag Co.	*Household refridgerators and freezers*	*Parts washer dry-off oven; Parts washer water htr.; Paint hook cleaner bath*			
	Aero Motive Mfg. Co.	*Mfg.*	*Parts washing*			
	Alumax Extrusions, Inc.	*Metal doors, sash, and trim*	*Age ovens*			
	American Axle and Mfg., Inc., Detroit Forge Mfg. Plant		*Gas forge fces.*			
	American Flange and Manfuacturing Co.	*Fabricated metal products*	*Uni-grip oven; Fuel combustion emissions*			
	American Meter Co.	*Aluminum foundries*	*Sintering oven*			
	AP Parts Co., Northern Tube Div. Mfg. Plant		*Samsco evaporator*			
	Apex Rack and Coating Co.	*Metal fabricating*	*Plastisol oven*			

SCC Code		SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
		Plant	*Plant Description*	*Combustor Description*			
		Appleton Electric	*Spray paint electrical boxes*	*Paint line; Wash*			
		Argyle Industries		*Drying oven*			
		Arnold Engineering	*Fabricated rubber products*	*Continuous cure oven*			
		Arrow Gear Co.	*Speed changes, drive, and gear*	*Washer heat treat; Draw fce.*			
		Barber-Colman Co.	*Textile machinery*	*Continuous bake oven; Walk-in oven*			
		Behlen Mfg. Co.	*Metal buildings*				
		Belstra Milling Co., Inc.	*Livestock feed*	*Gas dryer*			
		Benteler Industries		*Parts washer; Boiler*			
		Borroughs Corp.	*Mfg. plant*	*Burn-off oven; Parts washer; Paint strip tanks*			
		Braun Engineering Co.		*Fce. and quench tank; Bell fces.;*			
		Briggs & Stratton Auto Lock	*Motor vehicle parts & accessories*	*Thermal deburring*			
		Buckbee-Mears	*Fabricated metal products*				
		Burgess Norton Mfg.	*Motor vehicle parts and accessories*	*Despatch straight oven*			
		Cadillac Plating Corp.		*Heating and dry oven*			
		Castle Metal Finishing Corp.		*Hydrogen embrittlement*			
		Chemical Processing, Inc.		*Spray washer htr.; Phosphate line burner; Zinc plating line htr.*			
		Chem-Plate Industries, Inc.		*Continuous hydrogen relie; Heat treating fce.*			
		Chicago Steel and Pickling	*Gray iron foundries*	*Strip dryer*			
		Chicago Finished Metals, Inc.	*Metal coating and allied se*	*IR drying oven; Prime oven; Finishing oven*			
		Chicago Powdered Co.	*Industrial machinery, nec*	*Electric fce. co sinter*			
		Chrysler Corp.; Trenton Engine Automive		*Molly coat oven*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Dehler Mfg. Co.		*Dry-off oven*			
	Delco Electronics Corp.		*Annealing fce. shells; HD oil filter oven; Air filter cure oven; Gas filter cure oven; MS solder kiln; Insulator kilns; FLS solder ovens; Annealing fces.; Heat treat fces.; Panel element filter cure; Ink dryers; Spray dryer; Grinder solder oven; Plastisol cure oven*			
	Delta Tube and Fabricating Corp.	*Metal fabrication and painting*	*Parts washer*			
	Diesel Technology Co.		*Thermal deburr*			
	Douglas and Lomason	*Automobile seat frame mfg.*	*NG washer htr.*			
	Dow Chemical USA		*Heat treat fce.*			
	Draw Tite, Inc.		*Parts washer*			
	Dutton Lainson	*Transportation eqpt.*	*Zinc die cast machine; Degreaser; Paint line curing oven*			
	Eaton Corp., Controls Div.		*Thermal deburring*			
	Electro Voice, Inc.		*E-static cure oven; Hand paint cure oven*			
	Elkay Mfg.	*Fabricated structural met*	*Washer htr.*			
	Empire Comfort Systems		*Water htr.*			
	Estwing Mfg. Co., Inc.	*Hand and edge tools, nec*	*Draw ovens*			
	EW Bliss Co.		*Heat treating system*			
	E/M Corp.		*Power washer burner*			
	Federal Mogul Corp.		*Parts dryer; Washe- dryer*			
	Fenton Heading Div.		*Parts washer*			
	FIC America Corp.		*Carbo-nitriding pacemaker*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Fitzgerald Finishing Co.	*Painting plant*	*Ammonia stop-off; Draw fce.*			
	Ford Motor Co., Livonia Transmission Plant		*Fces. with salt or oil quench*			
	Foster Wheeler Corp.	*Fabricated plates/boilers*				
	FPM Continuous Processing		*Heat treating lines; Endothermic units*			
	Frankel Metal Co.		*Metal chip dryer*			
	General Electric Co.	*Electric services; Transformers and motors; Household cooking equipment*	*Annealing ovens; Bake ovens; Holding oven*			
	General Motors Corp.		*Gas fce.; MVAN leaf line; Main color booth; Heat treat fce.; Htr.; Solder operations; Welders; Paint system; Modular paint oven; Uniprime paint system; Hardening fce.; Draw fce.; In-line repair; Sealers and adhesives*			
	Gerrett Products	*Propane cylinders*	*Brazing ovens*			
	Gerlin, Inc.		*Heat treat fces.*			
	Halstead Industries, Inc.	*Copper rolling/drawing*	*NG preheat conveyer*			
	Hart and Cooley, Inc., Holland Plant		*Hardening oven; Paint strip*			
	Haskell of Pittsburgh, Inc.	*Metal surface coating*				
	Hastings Mfg. Co.		*Bluing tank; Chrome arbor htr.*			
	Hayes Wheels International	*Aluminum forgings*	*Melting fces.*			
	Helgesen Industries, Inc.	*Misc. metal parts coating*	*Dry filter paint booth*			
	Heresite Protective Coatings, Inc.	*Paints/protective coating*	*Spray booth and dip tank*			
	Highlands Gathering & Processing Co	*Natural gas compression &*				
	Hoskins Mfg. Co.		*Molten salt descale*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Howard Plating, Madison Heights		*Bake oven*			
	H.T. Gaston Corp.		*Oven*			
	ICON Metal Craft, Inc.		*Drying oven; Hardening oven*			
	IIT Research Institute	*Metal heat treating*	*Parts washers; Salt quench tanks*			
	Illinois Toolworks, Shakeproof Div.	*Special dies, tools, jigs*	*Indirect-fired fces.*			
	Industrial Coating, Inc.		*Washer*			
	Ingersoll Cutting Tool Co.		*Coating fce.*			
	IVA, Michigan Div.		*Space/process htrs.*			
	J.D. Plating Works, Inc.		*Gas-fired fce.*			
	J and M Plating Co.	*Metal finishing for wire*	*Lacquer dip-bake; Sludge dryer*			
	Kaydon Bearing Co.		*Heat treating*			
	Klein Tool Co.		*Gas heated hardening fce.*			
	Knape Industries, Inc.		*Process steam boiler*			
	Knape and Vogt Mfg. Co.	*Home office*	*Hot water htr.; Stage burners*			
	Laidlaw Corp.	*Steel wire and related products*	*Handle cure and bake oven*			
	Lakewood Engineering and Mfg. Co.	*Blowers and fans*	*Washer dryer*			
	Lanzen Fab North		*Paint booth exhaust*			
	LCN Closers, Inc., Div. Schlage Lock Co.	*Hardware, nec*	*Water washer htr.*			
	Le Tourneau, Inc.	*Manufacture of heavy material*				
	Lewis Spring and Mfg. Co.	*Metal stampings, spring, and wire*	*Stress relieving ovens*			
	Lindsay Mfg. Co.	*Farm and garden mach*				
	Lionel LLC		*NG htrs.*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Lockheed Martin Control Systems	*Motors and generators*	*Annealing ovens*			
	Magline, Inc., Standish Plant		*Magnesium pickling; Acid pickling; Alkaline cleaning; Magnesium drawing oven*			
	Marinette Marine Corp.	*Shipbuilding facility*	*Building heating; Paint booth; Blast bay*			
	Marion Body Works	*Truck bodies*	*Paint booth*			
	Mascotech Forming Technologies		*Coating line boiler; Degreaser*			
	Master Quality Finishing, Inc.	*Coatings, solvents, cleaners*				
	Maysteel Corp., Menomonee Falls Div.		*Part preparation and baking*			
	Means Industries		*Heat set fces.*			
	Meridian, Inc.		*Spray line wash line; Strip tank; Dry-off oven*			
	Michner Plating Co.		*Sludge dryer; Boilers*			
	Micro Switch		*Oven/washer*			
	Midwest Pipe Coating		*NG process htrs.*			
	Modine Mfg. Co., McHenry Plant	*Refridgeration and heating equipment*	*Powder paint curing oven*			
	Monarch Ware, Inc.		*Paint line*			
	Monroe Auto Equipment, Tenneco Automotive	*Motor vehicle parts and accessories*	*NG burner; NG hardening oven; NG dry-off oven; NG curing oven*			
	National Castings	*Steel foundries, nec*	*Tip-up heat treating fce.*			
	National Mfg. Co.		*Steam-heated dryers*			
	Nibco, Inc.	*Valves and pipe fittings*	*Heat treat*			
	North American Spring and Stam		*Ovens*			
	Northrup-Grumman Corp.	*Electronic components,nec*	*Ovens*			

SCC Code		SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
		Plant	*Plant Description*	*Combustor Description*			
		Olin Corp., Brass Div.	*Small arms ammunition*	*Anneal*			
		Outboard Marine Corp.	*Internal combustion engine*	*Heated die cleaning tank*			
		Page Two, Inc.	*Steel wire and related products*	*Annealing fce.*			
		Patz Sales, Inc.	*Farm equipment mfg.*	*Air make-up and heating*			
		Penberthy, Inc.	*Food products machinery*	*Heat treat and draw fce.*			
		Pioneer Metal Finishing		*Low-heat gas process*			
		Polar Ware Co.	*Blast furnaces and steel*	*Natural gas-firetube*			
		Powder Coat Technology		*Cure ovens; Dry-off ovens; Washers; Burn-off oven*			
		Precision Universal Joint		*Standby gas generator; Heat treat; Parts washer*			
		Rapistan Demag Corp.	*Mfg. plant, mat handling*	*Parts washer*			
		Reed Chatwood, Inc.	*Textile machinery*	*NG-fired cle*			
		Reliance Finishing Co.		*Surface coating lines*			
		Riverdale Plating and Heat Treating Co.		*Heat treating oven*			
		Rockford Products Corp.	*Bolts, nuts, rivets, and washers*	*Hardening fce.; Surface combustion draw fce.*			
		Sheffield Steel	*Elec arc steel post paint*				
		Shell Ca Production	*Crude petroleum and natural*				
		South Holland Metal Finishing		*Embrittlement oven*			
		Spartan Aluminum Products, Inc.	*Aluminum foundries*	*Gas-fired parts dryer*			
		Speed Queen Co.-Ripon	*General mfg.*	*Porc dryer & porc fce.*			
		Steel Structures, Inc.		*Custom coating line*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Superior Truck Parts, Inc.		*Brule' C.E.&E., Inc. T*			
	Teledyne Continental Motor	*General products*	*Power washers*			
	Thompson Saginaw Ball Screw		*Samsco evaporator; Process boiler; Rx generator; All-case washer; HOTO black*			
	Trinity Industries, Inc.	*Tank car mfg.*	*Stress relief oven; Catalytic drying oven*			
	Tubelite, Inc.		*Fce.*			
	Union Tank Car Co.	*Railroad tank cars*	*Stress fce.; Normalizing fce.*			
	Unistrut Corp.		*EE prep section*			
	Universal Coating, Inc., Mt. Morris		*Zinc phosphate*			
	Vickers, Inc.	*Valves g fittings*	*Fce.; Pac gen*			
	Voltek Div. Sekisui America		*Foaming oven*			
	Vulcraft	*Fabricated structural met*	*Annealing oven*			
	Weldbend Corp.		*Heat treating fce.*			
	Wells Mfg. Co., Woodstock Plant	*Nonferrous foundries, nec*	*Heat treat fce.*			
	Western Forge Corp.	*Hand and edge tools*	*Gas draw fce.*			
	Williams White and Co.	*Machine tools, metal types*	*Stress relief fce.*			
	Wire Sales Co.	*Steel wire and related products*	*Molten lead tank and fce.; Wire preheating fce.*			
	A.G. Simpson; Alco Controls; Amerastar, Inc.; Bendix Automotive Systems; Borroughs Mfg. Co.; Bristol Mfg. Corp.; Cardone Ind.; Cessna Aircraft Div.; Chamberlain Mfg.; Crown Cork & Seal Co., Inc.; Dundee Wire and Mfg.; Gordon D. Garratt Co; Gees, Inc.; GMC B.O.C.; GMC Cadillac Div.; GMC Truck and Bus Group; Hudson Products Corp.; Inca Mfg. Corp.; Lake City Army Ammunition Plant; Linkbelt Construction; Lockheed Fort Worth Co.; Norwell Mfg. Co.; Peabody Techtank, Inc.; Rayethon Aircraft Co.; Siegel-Robert Plating, Inc.; TG (USA) Corp.; Troy Coatings Div.; Vought Aircraft Co.; Walker Mfg. Co.					
31000401	Oil and Gas Production, Process Heaters, Distillate Oil (No. 2)		ICCR	1311	10 year	8

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
31000402	Oil and Gas Production, Process Heaters, Residual Oil		ICCR	1311	10 year	5
31000403	Oil and Gas Production, Process Heaters, Crude Oil		ICCR	1311	10 year	64
31000404	Oil and Gas Production, Process Heaters, Natural Gas		ICCR	1311	10 year	1774
31000405	Oil and Gas Production, Process Heaters, Process Gas		ICCR	1311	10 year	48
31000406	Oil and Gas Production, Process Heaters, Propane/Butane		ICCR	1311	10 year	4
31390001	Electrical Equipment, Process Heaters, Distillate Oil (No. 2)		ICCR *	7694	10 year	2
	Motorola, Inc.	*Communications equipment*	*CIO emergency generators*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
31390003	Electrical Equipment, Process Heaters, Natural Gas		ICCR *	7694	10 year	38
	CTS Corp., Microelectronics	*Hybrid microcircuits*	*High and low pressure boilers*			
	Dow Chemical USA, Michigan Div. Mfg.		*Motor oven*			
	Franklin Iron and Metal Co.	*Scrap processors*	*Wire reclaim fce.*			
	General Electric Co.	*Electric lamps*	*NG burners; Glass halogen-hybri*			
	General Electric Co., Hotpoint Range Div.	*Household cooking equipment*	*Bake oven*			
	Georgia Gulf Corp.		*EDC cracking fce.; OHC start-up htr.*			
	Hevi-Duty Electric		*Core and coil baking*			
	Indiana Steel and Wire Corp.		*NG process fces.*			
	Louis Padnos Iron and Metal	*Scrap processing*	*Reclaim*			
	RayCarl Products, Div. of Camcar/Textron, Inc.		*Water evaporator*			
	Richardson Brothers Co.	*Wood household furniture*	*Heat-cleaning oven*			
	Spina Electric Co.		*Burn-off oven*			
	Zenith Electronics Corp.		*Red phosphorus kiln*			
	Dallas Semiconductor; GMC Powertrain; H Hirschfield Sons, Co.; IBM; Laro Coal and Iron Co.; Minkin Metals Co.; Praxair, Inc.; Soles Electric Co., Inc.; Standard Lead Co.; Tempset, Inc.; Vastar Resources, Inc.					
39900601	Miscellaneous Manufacturing Industries, Process Heater/Furnace, Natural Gas		ICCR *	39	10 year	35
	Concord Industries, Inc.		*Crystalizer; Dehumidifying dryer*			
	Croda Apex Adhesives		*Water evaporator*			

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Dawn Equipment Co.		*Dry-off oven; Bake oven*			
	Hendrickson Spring		*NG fces.; Parabolic fce.*			
	Ingersoll Products	*Farm and garden machinery*	*Fce.; Slab heating fce.; Heat treat fce.; Draw fce.; Paint burn-off oven*			
	International Spring Co.		*Stress relieving oven*			
	Klein Tool Co.	*Machine tools, metal types*	*Gas-fired annealing fce.*			
	McLaughlin Body Co., Gout Products		*NG burners*			
	Medalist, Inc.		*Heat treat fce.; Tempering fce.*			
	Morse Automotive Corp.		*Oven; Iron phosphate dry-off and washer htr.*			
	Navistar International	*Farm and garden machinery*	*Drying oven*			
	Riverdale Plating and Heat Treating Co.		*Belt hardening fce.*			
	US Can	*Metal cans*	*Rapid make-up air units; Rooftop heating/cooling*			
	Universal Oil Products Co., Process Div.	*Chemical preparations, nec*	*Drying oven; Reactor preheater*			
39990001	Miscellaneous Manufacturing Industries, Distillate Oil (No. 2): Process Heaters		ICCR *	39	10 year	26
	Celotex Corp.	*Asphalt felts and roofing*				
	Coronet Industries, Inc.		*Fluid bed reactor; Defluorinating fluid bed*			
	Ford Motor Co.		*Slot fces.*			
	H and D, Inc.		*Heating equipment; Heating and dry oven*			
	Hickman Williams and Co.		*Coke dryer*			
	Intermet Corp., Radford	*Gray iron foundry*	*LFC metal melting*			

SCC Code	SCC Description			MACT Project	SIC Code(s)	"Bin"	Count
		Plant	*Plant Description*	*Combustor Description*			
		Kammer Asphalt Paving Co.	*Asphalt batch plant*	*Tar htr.*			
		Louisiana Pacific Corp.		*Thermal oil htr.*			
		Molesworth Paving Co.	*Asphalt batch plant*	*Tar htr.*			
		PVS Chemicals, Inc.	*Industrial inorganic chemicals*	*Oil-fired preheater*			
		Saginaw Asphalt Paving Co.		*Burner*			
		Sterling Diagnostic Imaging, Inc.	*Mfg. X-ray film*	*Polymer CP and EP; Polyester film coating*			
		Continental Grain; Dust Control Service Pr A.; Eugene Welding Co.; GMC Bus and Truck Group; Union Pacific Railroad Co.					
39990002	Miscellaneous Manufacturing Industries, Residual Oil: Process Heaters			ICCR *	39	10 year	20
		Allied Signal Detroit Tar Plant		*Batch still; Tar htr.*			
		American National Can Co.	*Aluminum can mfg.*				
		Angelica Healthcare Services Group, Inc.		*Tumblers*			
		Celotex Corp.	*Asphalt felts and coating*				
		Intermet Corp., Radford	*Gray iron foundry*	*LFC metal melting*			
		LeFere Forge and Machine Co.	*Iron and steel forgings*	*Heating and dry oven*			
		Melling Forging Co.		*Forge fce.*			
		Owens Corning Fiberglass Co., Trumbull Div.		*Asphalt htr.*			
		Sterling Diagnostic Imaging, Inc.	*Mfg. X-ray film*	*Polymer CP and EP; Polyseter film coating*			
39990003	Miscellaneous Manufacturing Industries, Natural Gas: Process Heaters			ICCR *	39	10 year	1318
39990004	Miscellaneous Manufacturing Industries, Process Gas: Process Heaters			ICCR *	39	10 year	7

SCC Code	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
	Plant	*Plant Description*	*Combustor Description*			
	Chrysler Corp., Jefferson North Assembly		*Paint sludge dryer*			
	Treat All Metals, Inc.	*Metal job shop*	*Heat treating ovens*			
	Meridian, Inc.; The Dow Chemical Co.; Wash and Dry Coin Laundry					
	Total count					11342

* Further investigation necessary to determine whether all in count are indirect-fired process heaters or direct-fired units (e.g., dryers, kilns, etc.)

Table 2. Process Heaters: Information Gathering Recommended Under Another MACT Category

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30100507	Chemical Manufacturing, Carbon Black Production, Pellet Dryer	Carbon Black Production	2895	10 year	149
30101202	Chemical Manufacturing, Hydrofluoric Acid, Rotary Kiln: Acid Reactor	Hydrogen Fluoride Production	2819	10 year	52
30102104	Chemical Manufacturing, Sodium Carbonate, Monohydrate Process: Rotary Ore Calciner: Gas-fired	Photographic Chemicals Production	2812	10 year	1
30102106	Chemical Manufacturing, Sodium Carbonate, Rotary Soda Ash Dryers	Photographic Chemicals Production	2812	10 year	4
30102822	Chemical Manufacturing, Normal Superphosphates, Curing	Phosphate Fertilizers Production	2874	10 year	2
30102824	Chemical Manufacturing, Normal Superphosphates, Dryer	Phosphate Fertilizers Production	2874	10 year	3
30102907	Chemical Manufacturing, Triple Superphosphate, Granulator: Curing	Phosphate Fertilizers Production	2874	10 year	3
30102922	Chemical Manufacturing, Triple Superphosphate, Curing	Phosphate Fertilizers Production	2874	10 year	2
30102924	Chemical Manufacturing, Triple Superphosphate, Dryer	Phosphate Fertilizers Production	2874	10 year	3
30103022	Chemical Manufacturing, Ammonium Phosphates, Curing	Phosphate Fertilizers Production	2874	10 year	2
30103024	Chemical Manufacturing, Ammonium Phosphates, Dryer	Phosphate Fertilizers Production	2874	10 year	7
30113004	Chemical Manufacturing, Ammonium Sulfate, Caprolactum By-product: Rotary Dryer	Ammonium Sulfate Production-Caprolactum By-Product Plants	2869	10 year	11

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30113005	Chemical Manufacturing, Ammonium Sulfate, Caprolactum By-product: Fluid Bed Dryer	Ammonium Sulfate Production - Caprolactum By-Product Plants	2869	10 year	3
30190004	Chemical Manufacturing, Fuel Fired Equipment, Process Gas (Ethylene Cracking Units)	Ethylene	2869	10 year	
30300002	Primary Metal Production, Aluminum Ore (Bauxite), Drying Oven	Alumina Processing	1051	10 year	13
30300105	Primary Metal Production, Aluminum Ore (Electro-reduction), Anode Baking Furnace	Primary Aluminum Production	3334	7 year	52
30300506	Primary Metal Production, Primary Copper Smelting, Ore Concentrate Dryer	Primary Copper Smelting	3331	7 year	8
30300522	Primary Metal Production, Primary Copper Smelting, Slag Cleaning Furnace	Primary Copper Smelting	3331	7 year	2
30300611	Primary Metal Production, Ferroalloy, Open Furnace, Ore Dryer	Ferroalloys Production	3313	7 year	3
30400510	Secondary Metal Production, Lead Battery Manufacture, Lead Reclaiming Furnace	Lead Acid Battery Manufacturing	3691	Deleted	8
30400526	Secondary Metal Production, Lead Battery Manufacture, Lead Reclaiming Furnace	Lead Acid Battery Manufacturing	3691	Deleted	4
30400720	Secondary Metal Production, Steel Foundries, Sand Dryer	Steel Foundries	3324, 3325	10 year	4
30500201	Mineral Products, Asphalt Concrete, Rotary Dryer: Conventional Plant	Asphalt Concrete Manufacturing	2951	10 year	1754
30500205	Mineral Products, Asphalt Concrete, Drum Dryer: Hot Asphalt Plants	Asphalt Concrete Manufacturing	2951	10 year	1160
30500210	Mineral Products, Asphalt Concrete, Asphalt Heater: Waste Oil	Asphalt Processing	2951	10 year	6
30500211	Mineral Products, Asphalt Concrete, Rotary Dryer Conventional Plant with Cyclone	Asphalt Concrete Manufacturing	2951	10 year	53
30500301	Mineral Products, Brick Manufacture, Raw Material Drying	Clay Products Manufacturing	3251	10 year	58
30500304	Mineral Products, Brick Manufacture, Curing	Clay Products Manufacturing	3251	10 year	14

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30500307	Mineral Products, Brick Manufacture, Calcining	Clay Products Manufacturing	3251	10 year	6
30500310	Mineral Products, Brick Manufacture, Curing and Firing: Sawdust Fired Tunnel Kilns	Clay Products Manufacturing	3251	10 year	15
30500311	Mineral Products, Brick Manufacture, Curing and Firing: Gas-fired Tunnel Kilns	Clay Products Manufacturing	3251	10 year	176
30500312	Mineral Products, Brick Manufacture, Curing and Firing: Oil-fired Tunnel Kilns	Clay Products Manufacturing	3251	10 year	16
30500313	Mineral Products, Brick Manufacture, Curing and Firing: Coal-fired Tunnel Kilns	Clay Products Manufacturing	3251	10 year	26
30500314	Mineral Products, Brick Manufacture, Curing and Firing: Gas-fired Periodic Kilns	Clay Products Manufacturing	3251	10 year	126
30500316	Mineral Products, Brick Manufacture, Curing and Firing: Coal-fired Periodic Kilns	Clay Products Manufacturing	3251	10 year	21
30500318	Mineral Products, Brick Manufacture, Tunnel Kiln: Wood-fired	Clay Products Manufacturing	3251	10 year	1
30500606	Mineral Products, Cement Manufacturing (Dry Process), Kilns	Portland Cement Manufacturing	3241	7 year	230
30500623	Mineral Products, Cement Manufacturing (Dry Process), Preheater/Precalciner Kiln	Portland Cement Manufacturing	3241	7 year	2
30500706	Mineral Products, Cement Manufacturing (Wet Process), Kilns	Portland Cement Manufacturing	3241	7 year	114
30500801	Mineral Products, Ceramic Clay/Tile Manufacture, Drying	Clay Products Manufacturing	3253	10 year	188
30501201	Mineral Products, Fiberglass Manufacturing, Regenerative Furnace (Wool-type Fiber)	Wool Fiberglass Manufacturing	3229	7 year	15

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30501202	Mineral Products, Fiberglass Manufacturing, Recuperative Furnace (Wool-type Fiber)	Wool Fiberglass Manufacturing	3229	7 year	7
30501205	Mineral Products, Fiberglass Manufacturing, Curing Oven: Rotary Spun (Wool-type Fiber)	Wool Fiberglass Manufacturing	3229	7 year	93
30501207	Mineral Products, Fiberglass Manufacturing, Unit Melter Furnace (Wool-type Fiber)	Wool Fiberglass Manufacturing	3229	7 year	10
30501603	Mineral Products, Lime Manufacture, Calcining: Vertical Kiln	Lime Manufacturing	3274	10 year	89
30501604	Mineral Products, Lime Manufacture, Calcining: Rotary Kiln	Lime Manufacturing	3274	10 year	197
30501605	Mineral Products, Lime Manufacture, Calcining: Gas-fired Calcimatic Kiln	Lime Manufacturing	3274	10 year	16
30501606	Mineral Products, Lime Manufacture, Fluidized Bed Kiln	Lime Manufacturing	3274	10 year	13
30501617	Mineral Products, Lime Manufacture, Multiple Hearth Calciner	Lime Manufacturing	3274	10 year	14
30501619	Mineral Products, Lime Manufacture, Calcining: Gas-fired Rotary Kiln	Lime Manufacturing	3274	10 year	1
30501702	Mineral Products, Mineral Wool, Reverberatory Furnace	Mineral Wool Production	3296	7 year	1
30501704	Mineral Products, Mineral Wool, Curing Oven	Mineral Wool Production	3296	7 year	18
30600301	Petroleum Industry, Catalytic Cracking Units, Thermal Catalytic Cracking Unit	Refinery II	2911		62
30700104	Pulp and Paper and Wood Products, Sulfate (Kraft) Pulping, Recovery Furnace/Direct Contact Evaporator	Pulp and Paper Production	2611, 2621, 2631	7 year	250
30700106	Pulp and Paper and Wood Products, Sulfate (Kraft) Pulping, Lime Kiln	Pulp and Paper Production	2611, 2621, 2631	7 year	209
30700703	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Particleboard Drying	Plywood/Particle Board Manufacturing	2435	10 year	214
30700704	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Waferboard Dryer	Plywood/Particle Board Manufacturing	2435	10 year	72
30700705	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Hardboard: Coe Dryer	Plywood/Particle Board Manufacturing	2435	10 year	21

SCC Code	SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
30700706	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Hardboard: Predryer	Plywood/Particle Board Manufacturing	2435	10 year	21
30700709	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Hardboard: Bake Oven	Plywood/Particle Board Manufacturing	2435	10 year	28
30700712	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Fir: Sapwood: Gas-fired Dryer	Plywood/Particle Board Manufacturing	2435	10 year	8
30700713	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Fir: Heartwood Plywood Veneer Dryer	Plywood/Particle Board Manufacturing	2435	10 year	14
30700714	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Larch Plywood Veneer Dryer	Plywood/Particle Board Manufacturing	2435	10 year	3
30700715	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Southern Pine Plywood Veneer Dryer	Plywood/Particle Board Manufacturing	2435	10 year	92
30700716	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Poplar Wood Fired Veneer Dryer	Plywood/Particle Board Manufacturing	2435	10 year	99
30700717	Pulp and Paper and Wood Products, Plywood/Particleboard Operations, Gas Veneer Dryer: Pines	Plywood/Particle Board Manufacturing	2435	10 year	2
	Total count				5871

Table 3. Process Heaters: Information Gathering Recommended By Other Means

SCC Code	SCC Description		Basis	SIC Code(s)	Count
	Plant	*Plant Description*	*Combustor Description*		
30100603	Chemical Manufacturing, Charcoal Manufacturing, Batch Kiln		Pyrolysis process; being investigated by Region VII for inclusion on source category list	2861	62
30100604	Chemical Manufacturing, Charcoal Manufacturing, Continuous Kiln		Same as above	2861	7
30111201	Chemical Manufacturing, Elemental Phosphorous, Calciner		Direct-fired process	2819	2
	Rhone-Poulenc Basic Chemicals Co.	*Elemental phosphorus*	*Kiln*		
	Akzo Nobel Chemicals, Inc.				
30111202	Chemical Manufacturing, Elemental Phosphorous, Furnace		Direct-fired process	2819	3
	Rhone-Poulenc Basic Chemicals Co.	*Elemental phosphorus*	*Furnace*		
30200504	Food and Agriculture, Feed and Grain Country Elevators, Drying		Direct-fired process	5153	444
30200522	Food and Agriculture, Feed and Grain Country Elevators, Counter-flow Dryer		Direct-fired process	5153	2
30200604	Food and Agriculture, Feed and Grain Country Elevators, Drying		Direct-fired process	4221	2706
30200742	Food and Agriculture, Grain Millings, Dry Corn Milling: Grain Drying		Direct-fired process	2041	108
30200773	Food and Agriculture, Grain Millings, Rice: Drying		Direct-fired process	2041	56
30200784	Food and Agriculture, Grain Millings, Soybean: Drying		Direct-fired process	2041	123
30201206	Food and Agriculture, Fish Processing, Direct Fired Dryer		Direct-fired process	2091	9
30201601	Food and Agriculture, Sugar Beet Processing, Pulp Dryer : Coal-fired		Direct-fired process	2063	65
30203104	Food and Agriculture, Export Grain Elevators, Drying		Direct-fired process	4221	17
30203811	Food and Agriculture, Animal/Poultry Rendering, Blood Dryer: Natural Gas Direct Fired		Direct-fired process	2077	1
30300313	Primary Metal Production, By-product Coke Manufacturing, Coal Preheater		Direct-fired process	3312	22
	Aluminum Company of America	*Primary aluminum smelting*			
	Chandler Materials	*Produce hadite for aggreg*	*Coal pulverizing mill*		

SCC Code	SCC Description			Basis	SIC Code(s)	Count
		Plant	*Plant Description*	*Combustor Description*		
		US Steel Co., Gary Works	*Iron and steel fabrication and prod.*	*Precarbon*		
		Inland Steel Flat Products				
30301403	Primary Metal Production, Barium Ore Processing, Dryers/Calciners			Direct-fired process	3295	123
		Baroid Drilling Fluids, Inc.	*Barite processing*			
		Burgess Pigment Co.	*Kaolin calcining*			
		Cytec Industries, Inc.	*Kaolin calcining; Grinding*			
		ECC America, Inc.	*Mineral extenders, filler*			
		ECC International	*Kaolin processing; Ground/treated minerals*			
		Englehard Corp.	*Kaolin processing; Fluid cracking catalyst; Storage and conveying; Fullers earth processing*			
		Evans Clay Co.	*Kaolin processing*			
		Feldspar Corp.	*Feldspar processing*			
		Galite Corp.	*Aggregated mfg.*			
		General Refractories Co.	*Kaolin clay processing*			
		Georgia Tennessee Mining and Chemical Co.	*Fullers earth*			
		Huber JM Corp.	*Kaolin processing*			
		Kent-Tenn Clay	*Kaolin processing*			
		M&M Clays, Inc.	*Kaolin processing*			
		Milwhite Co., Inc.	*Fullers earth processing*			
		Morie Jesse and Son Co., Inc.	*Sand processing*			
		Mullite Co.	*Kaolin processing*			
		Nord Kaolin Co.	*Kaolin processing*			
		Oil Dri Corp.	*Fullers earth*			

SCC Code	SCC Description			Basis	SIC Code(s)	Count
		Plant	*Plant Description*	*Combustor Description*		
		Southern Talc Co.	*Talc and barite processor*			
		Thiele Kaolin Co.	*Kaolin processing*			
		Waverly Mineral Prod. Div., Johnson March	*Fullers earth processing*			
30400207	Secondary Metal Production, Copper, Scrap Dryer (Rotary)			Direct-fired process	3362	10
30400231	Secondary Metal Production, Copper, Scrap Dryer			Direct-fired process	3362	14
30400807	Secondary Metal Production, Zinc, Concentrate Dryer			Direct-fired process	3341	4
30400901	Secondary Metal Production, Malleable Iron, Flux Furnace			Direct-fired process	3322	3
30402004	Secondary Metal Production, Furnace Electrode Manufacture, Bake Furnaces			Direct-fired process	3624	36
30402201	Secondary Metal Production, Metal Heat Treating, Furnace: General			Direct-fired process	3398	440
30404901	Secondary Metal Production, Miscellaneous Casting and Fabricating, Wax Burnout Oven			Direct-fired process	3300	18
30404902	Secondary Metal Production, Miscellaneous Casting and Fabricating, Wax Burnout Oven			Direct-fired process	3300	1
30500402	Mineral Products, Calcium Carbide, Coke Dryer			Direct-fired process	2819	13
30500501	Mineral Products, Castable Refractory, Raw Material Dryer			Direct-fired process	3255	25
30500504	Mineral Products, Castable Refractory, Curing Oven			Direct-fired process	3255	58
30500915	Mineral Products, Clay and Fly Ash Sintering, Rotary Kiln			Direct-fired process	3295	13
30500916	Mineral Products, Clay and Fly Ash Sintering, Dryer			Direct-fired process	3295	9
30501211	Mineral Products, Fiberglass Manufacturing, Regenerative Furnace (Textile-type Fiber)			Direct-fired process	3229	1
30501212	Mineral Products, Fiberglass Manufacturing, Recuperative Furnace (Textile-type Fiber)			Direct-fired process	3229	41
30501213	Mineral Products, Fiberglass Manufacturing, Unit Melter Furnace (Textile-type Fiber)			Direct-fired process	3229	4
30501215	Mineral Products, Fiberglass Manufacturing, Curing Oven (Textile-type Fiber)			Direct-fired process	3229	49
30501311	Mineral Products, Frit Manufacture, Rotary Dryer (usually not used with a continuous furnace)			Direct-fired process	2899	2
30501401	Mineral Products, Glass Manufacture, Furnace/General			Direct-fired process	3211	29
30501402	Mineral Products, Glass Manufacture, Container Glass: Melting Furnace			Direct-fired process	3221	203
30501403	Mineral Products, Glass Manufacture, Flat Glass: Melting Furnace			Direct-fired process	3211	72
30501404	Mineral Products, Glass Manufacture, Pressed and Blown Glass: Melting Furnace			Direct-fired process	3229	66

SCC Code	SCC Description		Basis	SIC Code(s)	Count
	Plant	*Plant Description*	*Combustor Description*		
30501414	Mineral Products, Glass Manufacture, Ground Cullet Beading Furnace		Direct-fired process	3211	13
30501501	Mineral Products, Gypsum Manufacture, Rotary Ore Dryer		Direct-fired process	3275	66
30501511	Mineral Products, Gypsum Manufacture, Continuous Kettle: Calciner		Direct-fired process	3275	80
30501512	Mineral Products, Gypsum Manufacture, Flash Calciner		Direct-fired process	3275	39
30501520	Mineral Products, Gypsum Manufacture, Drying Kiln		Direct-fired process	3275	50
30501801	Mineral Products, Perlite Manufacturing, Vertical Furnace		Direct-fired process	3295	34
30501901	Mineral Products, Phosphate Rock, Drying		Direct-fired process	1475	42
30501905	Mineral Products, Phosphate Rock, Calcining		Direct-fired process	1475	21
30501906	Mineral Products, Phosphate Rock, Rotary Dryer		Direct-fired process	1475	2
30502102	Mineral Products, Salt Mining, Granulation: Stack Dryer		Direct-fired process	1476	19
30502720	Mineral Products, Industrial Sand and Gravel, Sand Drying: Gas- or Oil-fired Rotary or Fluidized Bed Dryer		Direct-fired process	1442	2
30503202	Mineral Products, Asbestos Milling, Drying		Direct-fired process	1499	1
30503402	Mineral Products, Feldspar, Dryer		Direct-fired process	1499	2
30504033	Mineral Products, Mining and Quarrying of Nonmetallic Minerals, Ore Dryer		Direct-fired process	1400	41
30508909	Mineral Products, Talc Processing, Natural Gas Fired Crude Ore Dryer		Direct-fired process		1
30508955	Mineral Products, Talc Processing, Pellet Dryer		Direct-fired process		3
30800705	Rubber and Miscellaneous Plastics Products, Fiberglass Resin Products, Wax Burnout Oven		Direct-fired process	3079	19
	Total count				5296

Table 4. Process Heaters: Information Gathering Being Investigated For Inclusion In The ICCR Effort

SCC Code	Description			MACT Project	SIC Code(s)	"Bin"	Count
		Plant	*Plant Description*	*Combustor Description*			
30100108	Chemical Manufacturing, Adipic Acid, Dryer				2869		1
		SCM Chemicals	*Inorganic pigments*				
30104201	Chemical Manufacturing, Lead Alkyl Manufacturing (Sodium/Lead Alloy Process), Recovery Furnace				2869		3
		Dual Lite Mfg.; Ethyl Corporation					
30112541	Chemical Manufacturing, Chlorine Derivatives, Vinyl Chloride: Cracking Furnace				2869		3
		PPG Industries		*Cracker*			
		Dow Chemical USA, La. Division					
30490023	Secondary Metal Production, Fuel Fired Equipment, Natural Gas				3300		4
		CSM Industries, Inc.		*Sintering fce.*			
		Farmland Industries, Inc.	*Fertilizer plant*				
		Nucor Steel	*Steel mfg.*	*Melt shop roof monitors*			
		Olin Corp., Brass Group	*Copper rolling and drawing*	*Vaporizer flare*			
30490031	Secondary Metal Production, Fuel Fired Equipment, Distillate Oil: Furnaces				3300		5
		Acme Die Casting	*Aluminum/zinc die casting*	*Melt fces.*			
		General Motors Corp., Powertrain Div., Saginaw		*Briquette plant*			
		Moline Forge, Inc.	*Iron and steel forgings*	*Forge fces.gas*			
		Hoeganaes Corp.					
30490033	Secondary Metal Production, Fuel Fired Equipment, Natural Gas: Furnaces				3300		355
30490034	Secondary Metal Production, Fuel Fired Equipment, Process Gas: Furnaces				3300		36

		Achievor Tire, L.P.	*Tires and inner tubes*	*Curing oven*		
		Alumax Extrusions, Inc.	*Metal doors, sash, and trim*	*Die ovens*		
		Chrysler Corp.	*Automobile parts*	*Gas generator; Hardening fce.; All case fce.; Pin and draw fce.*		
		Foote-Jones/Illinois Gear	*Speed changes, drives, and gears*	*Convection draw fce.; Heat treat fce.*		
		General Power Equipment Co.	*Lawn and garden equipment*	*Dryer*		
		Halstead Industries, Inc.	*Copper rolling and drawing*	*Exothermic generator*		
		Hy Lift Div., Spx Corp.	*Mfg. plant*	*Box fce.; Continuous draw fce.*		
		Peoria Apron and Towel	*Dry cleaning plant*	*Dryer steam generator*		
		Trojan Heat Treat Co., Inc.		*Generator*		
		USX Corp., Irvin Works	*Blast fces.*	*Annealing fces.; Continuous annealing; Open coil annealing*		
		Great Lakes Steel Div.				
30490035	Secondary Metal Production, Fuel Fired Equipment, Propane			3300		1
		Country Cast Products, Inc.		*Mold drying oven*		
30790021	Pulp and Paper and Wood Products, Fuel Fired Equipment, Distillate Oil (No. 2)			2430		1
		Groveton Paperboard, Inc.		*PO-BP*		
39990022	Miscellaneous Manufacturing Industries, Residual Oil			39		1
		Marathon Oil Co.				
	Total count					410

Table 5. Process Heaters: Recommended for Moving to Another ICCR Source Category

SCC Codes	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
		Plant	*Plant Description*	*Combustor Description*		
30890013	Rubber and Miscellaneous Plastics Products, Process Heaters, Natural Gas: Incinerators		ICCR (incinerators)	3079	10 year	17
30902501	Fabricated Metal Products, Drum Cleaning/Reclamation, Drum Burning Furnace		ICCR (incinerators)	5085	10 year	60
		Argyle Industries		*Drying oven*		
		Bakerstown Container Corp.	*Reconditions 55 gal drums*			
		Gas turbine engine prod. plant		*Atmosphere fce.*		
		Kitzinger Cooperage Corp.	*Drum reconditioning*	*Reclamation fce.*		
		Mid-America Steel Drum Co.	*Steel drums*	*Drum reclamation fce.*		
		Moore Drums, Inc.	*Steel drum reconditioning*	*Reclaim fce.*		
		Myers Container Corp.	*Entire source*	*UM incinerator*		
		Myers Container Corp.	*Drum incinerator, painting*	*Fabricated metal prod.*		
		New England Container	*Misc. plastics products*	*Batch oven; Exterior oven; Interior oven; Drum recond./afterburner*		
31000411	Oil and Gas Production, Process Heaters, Distillate Oil (No. 2)		ICCR (boilers)	1311	10 year	4
		Amoco Production Co., Anschutz	*Natural gas processing*	*2000-kw generator; G10CE-1602-3*		
		Meridian Oil Production, Inc.	*Natural gas compression*			
		Mobil Producing Texas and New Mexico				
31000414	Oil and Gas Production, Process Heaters, Natural Gas: Steam Generators		ICCR (boilers)	1311	10 year	122
		Amerada Hess, Tioga Gas Plant	*Natural gas liquids*	*Boilers*		
		American Pipeline Co.	*Natural gas compression &*			
		American Processing L.P.	*Natural gas compression &*			

SCC Codes		SCC Description	MACT Project	SIC Code(s)	"Bin"	Count
		Plant	*Plant Description*	*Combustor Description*		
		Amoco, Beaver Creek	*Natural gas processing*	*Supplemental boiler*		
		Amoco Production Co., Anschutz	*Natural gas processing*	*2000 kw generator*		
		Amoco, Whithey Canyon	*Natural gas processing*	*Glycon dehy regenerator*		
		Arco Oil and Gas Co.	*Natural gas processing*			
		Ark Western Gas, Drake Compressor Station	*Natural gas compression*	*Dehydrator reboil burner*		
		Chevron, Carter Creek	*Natural gas processing*			
		CIG Rawlins Co.	*Natural gas transmission*	*Regeneration htr.*		
		Colorado Interstate Gas	*Natural gas processing*	*Boiler; Emergency generator*		
		Costilla Petroleum Corp.	*Natural gas compression &*			
		El Paso Natural Gas Co.	*Natural gas compression &*			
		Exxon Company USA	*Natural gas compression*			
		Exxon Company USA, Flomaton Gas Treatment Facility	*Crude petroleum and natural*	*Power boiler*		
		Exxon, LaBarge Dehydration Facility	*Natural gas processing*	*Emergency generator*		
		GPM Gas Corp.	*Oil and gas production; Natural gas processing*			
		Highlands Gathering and Processing Co.	*Natural gas compression &*			
		KN Energy, Big Springs	*Natural gas pipeline compressor station*	*NG glycol reboiler; NG glycol htr.; NG htr.*		
		Koch Hydrocarbons, McKenzie Gas Plant	*Natural gas liquids*	*Boiler*		
		Liquid Energy Corp.	*Natural gas compression &*			
		Lone Star Pipeline Co.	*Compression of gas*			
		Marathon Oil Co.	*Petroleum*			
		Mobil Natural Gas, Inc.	*Natural gas processing*			
		MOESPI	*Crude petroleum and natural*	*Boiler*		

SCC Codes	SCC Description		MACT Project	SIC Code(s)	"Bin"	Count
		Plant	*Plant Description*	*Combustor Description*		
		NCG Energy, Inc., Ringwood Plant	*Natural gas liquids*			
		Oregon Basin Gas Plant	*Natural gas processing*	*Process boiler*		
		Phillips Petroleum, Chatom Gas Treatment and Processing		*Boiler*		
		Shell Western E and P, Inc.	*Gas processing plant*			
		Sulfur River Resources, LC	*Sour gas plant: gas, LPG*			
		Tesoro Refinery	*Petroleum refining*			
		Texaco Exploration and Production, Inc.	*Crude petroleum and natural g; NGL and sulfur extraction*			
		Transcontinental Gas Pipe Line Corp.	*Natural gas and sulfur proc*			
		Warren Petroleum Co.	*Natural gas compression &*	*Generator*		
		West Texas Gas, Inc.	*Natural gas processing*			
		Western Gas Resources, Inc.	*Natural gas compression &*			
		Williams Field Services	*Gas processing, CO2 removal; Natural gas transmission*	*Boiler*		
		Williston Basin IPC	*Natural gas transmission*	*Generator; Auxiliary generator*		
		W.H. Hunt Trust Estate	*Natural gas liquids*	*Boilers; Htrs.*		
		Canyon Reef Carriers, Inc.; DeSoto Oil and Gas, Inc.; Javelina Co.; Mapco Gas Products; Peoples Natural Gas; Pittencrieff America, Inc.; Quantum Chemical Corp.; Tristar Gas Co.				
31000415	Oil and Gas Production, Process Heaters, Process Gas: Steam Generators		ICCR (boilers)	1311	10 year	41
		Enron Louisiana Energy Co.		*Boilers; Steam superheaters*		
		NGC Energy Resources, Ltd Partnership	*Natural gas processing*	*Steam boiler*		
		Arco Oil and Gas Co.; Houston Pipeline Co., Enron Gas Co.; Parker and Parsley Gas Processing Co.				
	Total count					244